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bart impact program

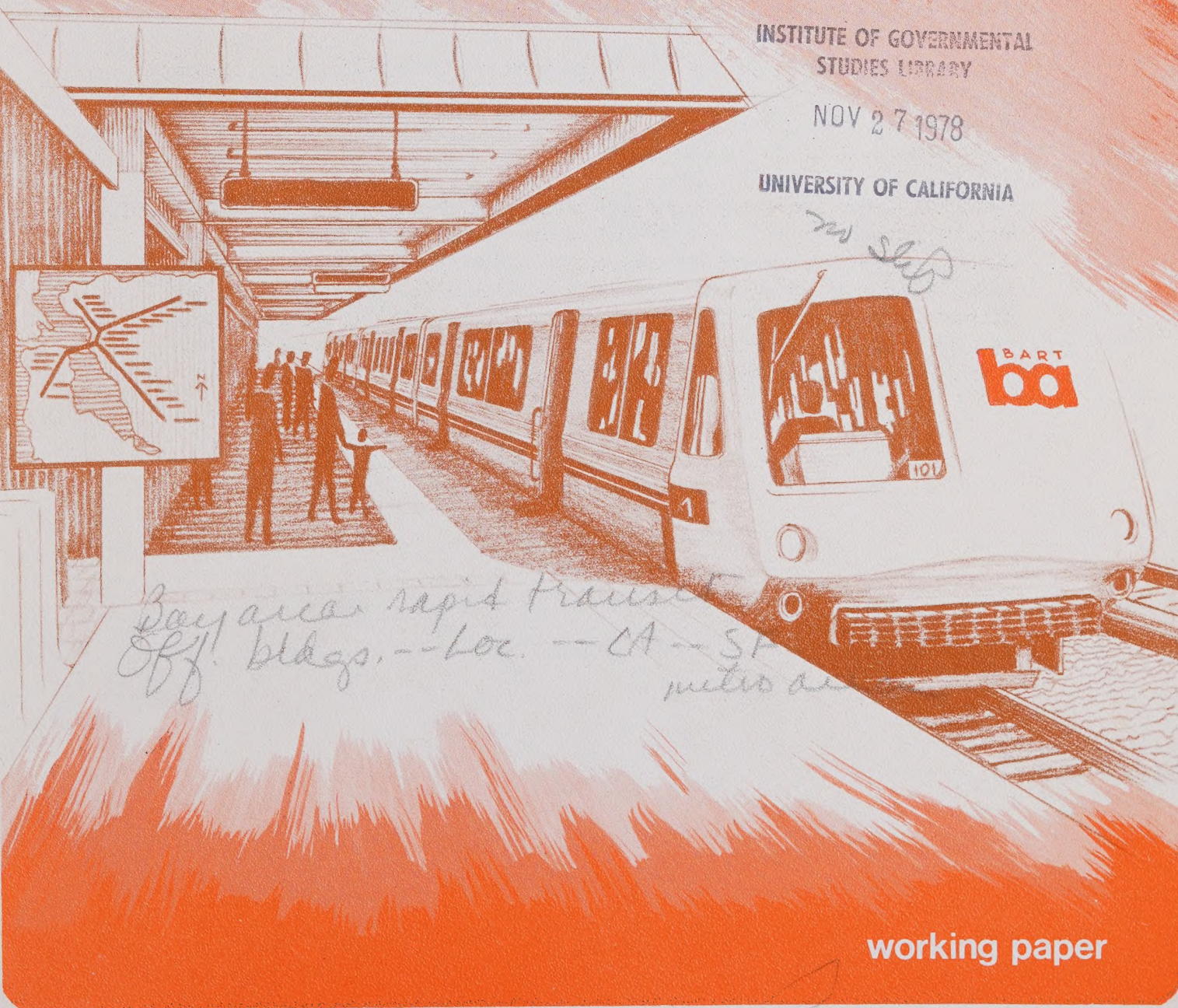
Land Use and Urban Development Project

STUDY OF OFFICE CONSTRUCTION INDUSTRY

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*Bay area rapid Transit
Off. bldgs. -- Loc. -- CA -- SF
metro area*

working paper

The BART Impact Program is a comprehensive, policy-oriented study and evaluation of the impacts of the San Francisco Bay Area's new rapid transit system (BART).

The program is being conducted by the Metropolitan Transportation Commission, a nine-county regional agency established by state law in 1970.

The program is financed by the U. S. Department of Transportation, the U. S. Department of Housing and Urban Development, and the California Department of Transportation. Management of the Federally funded portion of the program is vested in the U. S. Department of Transportation.

The BART Impact Program covers the entire range of potential rapid transit impacts, including impacts on traffic flow, travel behavior, land use and urban development, the environment, the regional economy, social institutions and life styles, and public policy. The incidence of these impacts on population groups, local areas, and economic sectors will be measured and analyzed. Finally, the findings will be interpreted with regard to their implications for the planning of transportation and urban development in the Bay Area and other metropolitan areas.

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BART IMPACT PROGRAM
STUDY OF THE OFFICE CONSTRUCTION INDUSTRY
LAND USE AND URBAN DEVELOPMENT PROJECT

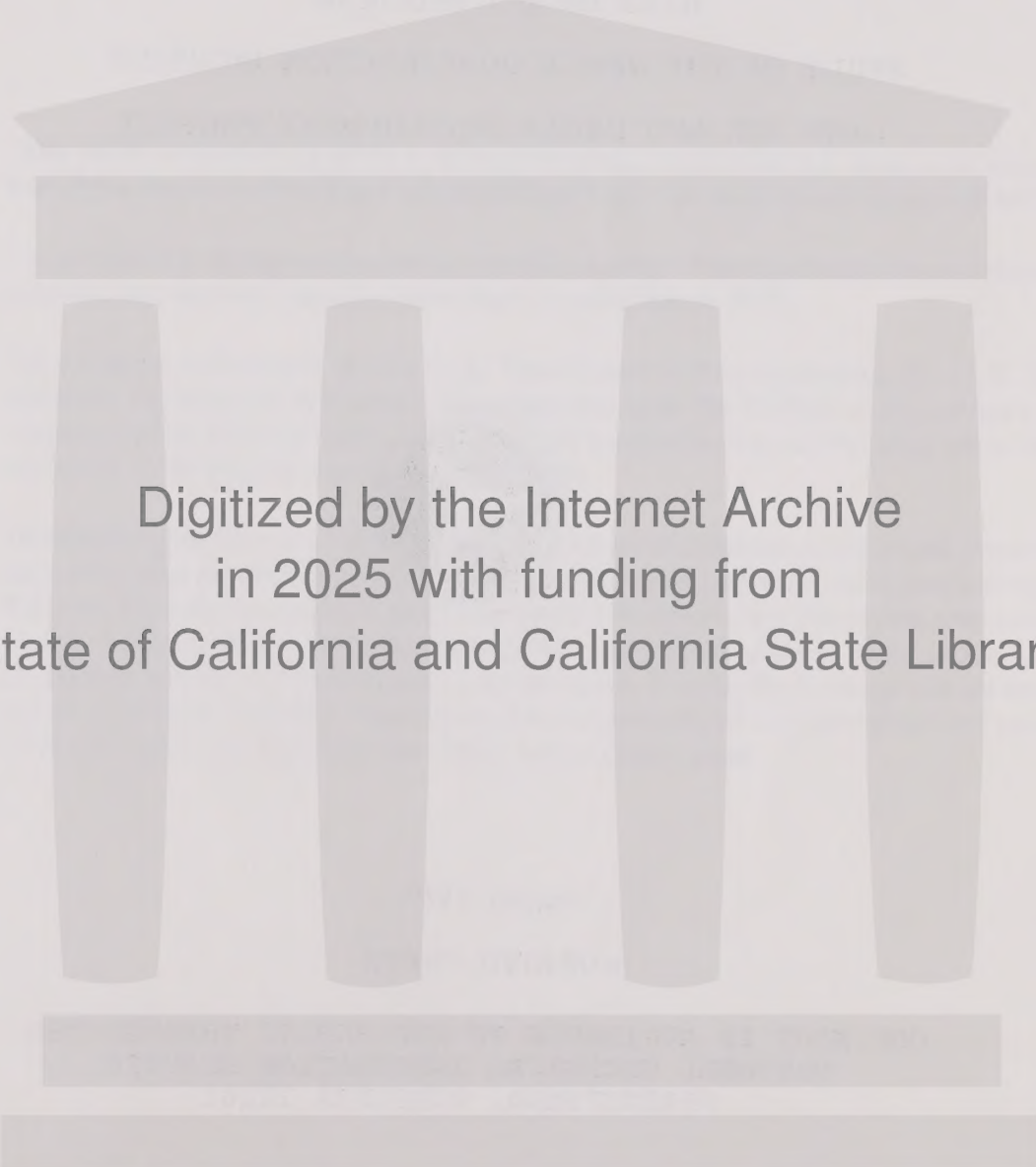


August 1977

WORKING PAPER

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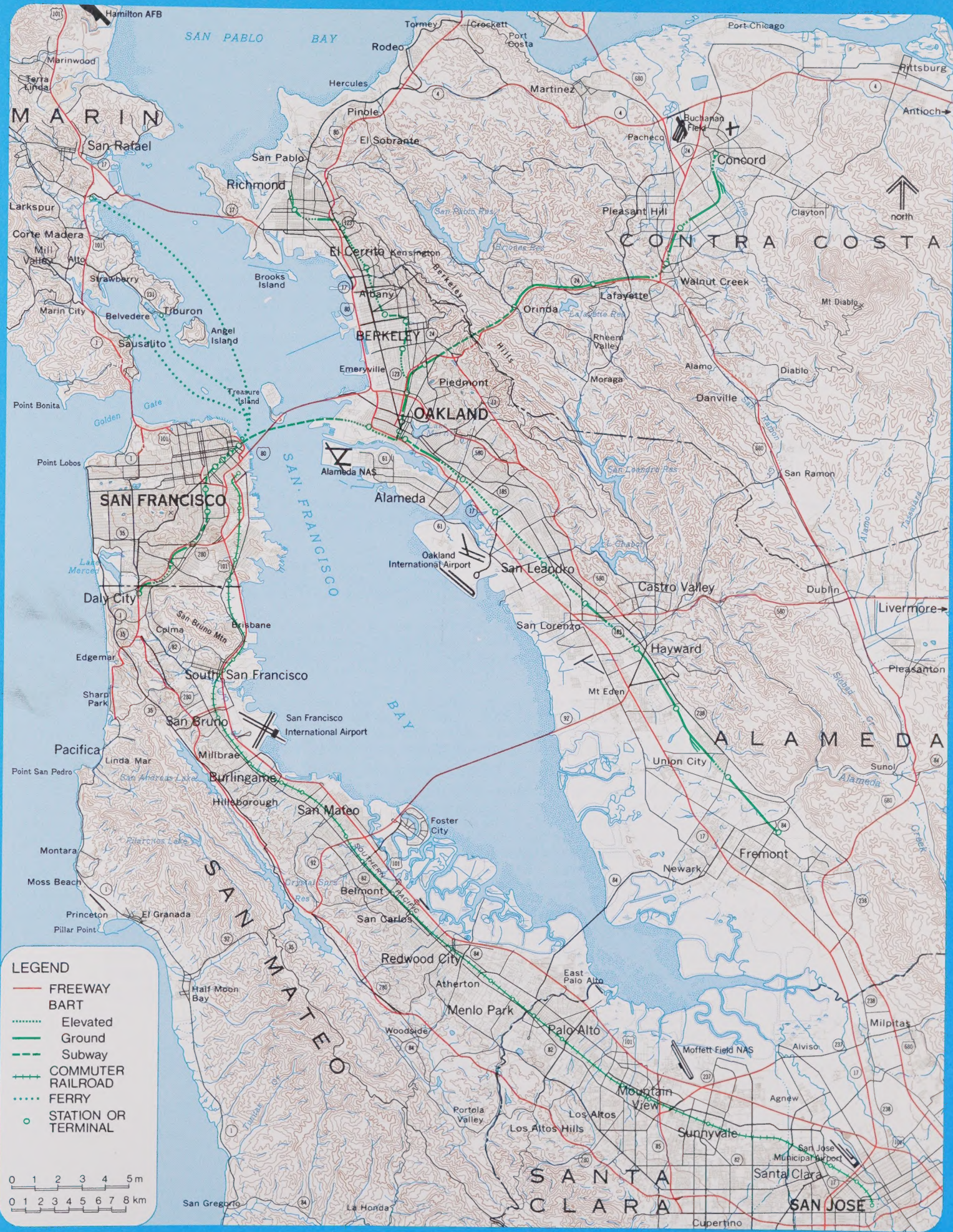
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PREPARED BY JOHN BLAYNEY ASSOCIATES/DAVID M. DORNBUSCH & CO., INC.
A JOINT VENTURE

UNDER CONTRACT WITH THE METROPOLITAN TRANSPORTATION COMMISSION
FOR THE U.S. DEPARTMENT OF TRANSPORTATION
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16. Abstract This working paper addresses BART's effects on the three-county BART service area office construction industry. Building permit data for new and rehabilitated offices throughout the three-county BART area were compiled for the period from 1960 through early 1977. Eighteen-year trends in regional and local office patterns were analyzed and specific office construction industry hypotheses were investigated. The hypotheses addressed specific issues of BART effects on regional office patterns, local office location shifts to BART station areas, and the timing of BART-induced changes in office location patterns. Key informants were interviewed to supplement the building permit data analysis. Information from the interviews provided insight into office location decisions and aided the interpretation of the building permit data.			
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- LEGEND**
- FREEWAY
 - BART
 - Elevated
 - Ground
 - - - Subway
 - COMMUTER RAILROAD
 - FERRY
 - STATION OR TERMINAL

0 1 2 3 4 5 m
0 1 2 3 4 5 6 7 8 km

SAN FRANCISCO BAY REGION
CENTRAL AREA

BART: The Bay Area Rapid Transit System

Length: The 71-mile system includes 20 miles of subway, 24 miles on elevated structures and 27 miles at ground level. The subway sections are in San Francisco, Berkeley, downtown Oakland, the Berkeley Hills Tunnel and the Transbay Tube.

Stations: The 34 stations include 13 elevated, 14 subway and 7 at ground level. They are spaced at an average distance of 2.1 miles: stations in the downtowns are less than one-half mile apart while those in suburban areas are two to four miles apart. Parking lots at 23 stations have a total of 20,200 spaces. There is a fee (25 cents) at only one of the parking lots. BART and local agencies provide bus service to all stations.

Trains: Trains are from 3 to 10 cars long. Each car is 70 feet long and has 72 seats. Top speed in normal operations is 70 mph with an average speed of 36 mph including station stops. All trains stop at all stations on the route.

Automation: Trains are automatically controlled by the central computer at BART headquarters. A train operator on board each train can override automatic controls in an emergency.

Magnetically encoded tickets with values up to \$20 are issued by vending machines. Automated fare gates at each station compute the appropriate fare and deduct it from the ticket value. At least one agent is present at each station to assist patrons.

Fares: Fares range from 25 cents to \$1.45, depending upon trip length. Discount fares are available to the physically handicapped, children 12 and under, and persons 65 and over.

Service: BART serves the counties of Alameda, Contra Costa and San Francisco, which have a combined population of 2.4 million. The system was opened in five stages, from September, 1972, to September, 1974. The last section to open was the Transbay Tube linking Oakland and the East Bay with San Francisco and the West Bay.

Routes are identified by the terminal stations: Daly City in the West Bay, Richmond, Concord and Fremont in the East Bay. Trains operate from 6:00 a.m. to midnight on weekdays, every 12 minutes during the daytime on three routes: Concord-Daly City, Fremont-Daly City, Richmond-Fremont. This results in 6-minute train frequencies in San Francisco, downtown Oakland and the Fremont line where routes converge. In the evening, trains are dispatched every 20 minutes on only the Richmond-Fremont and Concord-Daly City routes. Service is provided on Saturdays from 9 a.m. to midnight at 15-minute intervals. Future service will include a Richmond-Daly City route and Sunday service. Trains will operate every six minutes on all routes during the peak periods of travel.

Patronage: Approximately 142,000 one-way trips are made each day. Approximately 200,000 daily one-way trips are anticipated under full service conditions.

Cost: BART construction and equipment cost \$1.6 billion, financed primarily from local funds: \$942 million from bonds being repaid by the property and sales taxes in three counties, \$176 million from toll revenues of transbay bridges, \$315 million from federal grants and \$186 million from interest earnings and other sources.

March 1978

PREFACE

The BART Impact Program (BIP) is a comprehensive policy-oriented effort to identify, describe, measure, and present findings as accurately as possible about the multi-faceted impacts of a major public transportation investment—the BART system. The major objective of the Land Use and Urban Development Project is to determine how and to what extent BART has influenced the spatial arrangements of people and activities within the San Francisco Bay Area. To accomplish this task, the project will focus on the way BART has influenced (1) location decision processes; (2) actual movement behavior that results from those decisions and other market forces; and (3) the form, character, and functioning of aggregate spatial groupings that represent the net outcome of those decisions and movement patterns. Changes attributable to BART will be measured against pre-BART and no-BART alternatives. In all of these studies BART's effects on individual socio-economic groups, particularly minorities and the disadvantaged, will receive careful attention.

The Land Use and Urban Development Project is one of six major projects comprising the BART Impact Program. The others are:

- Economics and Finance Project (E&F)
- Environment Project (Env)
- Institutions and Lifestyles Project (ILS)
- Public Policy Project (PP)
- Transportation System and Travel Behavior Project (TSTB)

Each of these projects is designed to investigate specific aspects of BART's impacts, to explain why the impacts occur, and to identify who is affected by the impacts and the distributional effects. The projects then will demonstrate how the information derived can be used by decision-makers to enhance the benefits and to reduce the dis-benefits of BART and to increase understanding of the potential impacts of rail rapid transit investments in the Bay Area and other American metropolitan areas.

This Working Paper presents the analysis and findings of the study of BART's impact on the office construction industry—one aspect of BART's impacts on land use and urban development. The paper is presented for review by BART Impact Program staff, federal sponsors, and other interested planners and researchers.

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SUMMARY AND FINDINGS

OBJECTIVE

This study's objective was to evaluate how and to what extent BART has affected the office construction industry within the three-county area served by BART. Specifically addressed were BART's effects on the regional and local patterns of office construction, BART's influence on the character of station-area office users and customers, and the timing of any BART impacts that were identified.

METHOD

The study's principal methods were key informant interviews and a time series analysis of building permit data for each city and station area in the BART region. We examined each city and station area's share of regional office construction during the 1960 - 1977 period to look for changes in office construction patterns which might be BART related. To supplement and interpret the building permit analysis, we interviewed key informants knowledgeable about office construction decisions and about specific aspects of community development, such as the character of station areas.

FINDINGS

HYPOTHESIS 1: The regional pattern of office construction and rehabilitation has changed as a result of BART.

The older office centers of downtown Oakland and San Francisco have been reinforced by BART.

The building permit data does not support this hypothesis. San Francisco and Oakland have not increased their share of regional office construction during any portion of the BART period. Informants identified several individual buildings which might have been located elsewhere in the Bay Area except for BART, but none was in San Francisco. Two were in Oakland and two in Richmond, indicating that whatever small redistribution might be BART induced has reinforced older cities other than San Francisco.

Newer suburban office centers such as Walnut Creek and Fremont have been able to increase their share of regional office space because of BART.

The suburban areas have increased their share of regional office construction since the early 1960s, but the increase does not appear to be directly attributable to BART. Only two suburban buildings were identified (Alameda County Courthouse in Fremont and the Walnut Creek Plaza Building) which might have located in a different part of the Bay Area if BART had not been built.

End-of-the-line cities (Fremont, Concord, Richmond and Daly City) have experienced increased office construction because of their strategic locations.

The four BART terminus communities have not significantly increased their share of Bay Area office construction. The office construction in these cities has often located away from the BART station areas and is not attributable to BART.

HYPOTHESIS 2: BART station areas have experienced more intensive office construction and rehabilitation than they would have experienced without BART.

San Francisco's business district has experienced a definite redirection of office building growth to the Market Street (location of the BART line) and south-of-Market area. This redirection has coincided with BART's development, yet BART cannot be credited with causing the redirection in the sense that the redirection would not have occurred if BART had not been built.

Nevertheless, BART has been one of several important influences on office location within San Francisco. Apart from BART's direct influence, its successful referendum promoted the Market Street Development Project and changes in zoning laws, which in turn helped attract new office development to Market Street.

Other Bay Area communities have also experienced an increase in office construction near BART stations. Oakland has had a slight growth in office construction near BART stations, and BART contributed to that increase by assisting the financing of Oakland's City Center Project. In Richmond, Berkeley and Walnut Creek, station area office construction has risen substantially relative to office construction elsewhere in the community during the BART development period. However, total office construction in these centers (especially in Richmond and Berkeley) has been small and one or two buildings dominate the city totals. In other communities generally no significant increase in the station-area share of city construction has occurred.

HYPOTHESIS 3: Businesses occupying offices in BART-induced development areas serve higher income tenants, employees or clients and have displaced offices serving lower income or minority tenants, employees or clients.

San Francisco's Market Street has experienced a change in the character of office tenants, employees and clients. That change is indirectly attributable to BART. BART encouraged formation of the Market Street Development Project, which in turn was directly responsible for many physical improvements along Market Street, and which helped to attract new office construction.

Outside of downtown San Francisco, BART has not noticeably affected the office-related characteristics of any station areas. In minority as well as in white communities, BART has not induced changes in the type of office tenants, employees or customers in the station areas.

HYPOTHESIS 4: Developers of BART station area office buildings were prompted by the publicity generated by BART's planning phase.

In general, BART's planning and publicity had little impact on developers' decisions of where to locate offices. In two special cases, however, BART's planning and publicity did influence office construction. In downtown San Francisco, BART's successful referendum and favorable publicity facilitated approval of the Market Street Development Project, which in turn helped to encourage office development on Market Street. On the other hand, in San Francisco's Mission District, BART's publicity rallied neighborhood opposition to large office development, which has effectively precluded new office construction.

1. INTRODUCTION

BART began trans-Bay service in 1974, linking downtown San Francisco with suburbs in several directions. The greater mobility which BART would afford commuters was expected by many to have a significant impact on office patterns in the Bay Area. Some expected BART to revitalize the traditional office centers of San Francisco and Oakland; others expected BART to facilitate the establishment of entirely new centers. Many expected BART to induce offices to locate near station areas, thereby altering local distribution of offices.

A related concern about possible BART effects was that station areas would experience a dramatic change such that lower-income and minority office tenants, employees and clients would be supplanted by higher-income and white tenants, employees and clients in these areas.

If some or all of these changes were to occur, people questioned which aspect of BART, specifically, would prompt the changes. The successful referendum, the planning phase, the construction phase and operation phase were all contenders for exerting predominant influence.

In this Working Paper we have attempted to provide some conclusions about these issues by formulating and testing hypotheses designed to investigate the location, character and timing aspects of BART's effect on office construction in the Bay Area.

2. RESEARCH QUESTIONS AND STUDY ISSUES

OBJECTIVES

The study of BART's effects on office construction and rehabilitation patterns in the Bay Area addresses four specific hypotheses.¹ Two hypotheses focus on the regional and local aspects of the location issue, that is, they attempt to determine the extent to which BART has changed the location of office buildings in the Bay Area. The third hypothesis addresses the issue of whether BART has led to any change in the character of station area offices. Finally, the fourth hypothesis deals with which phase or phases, if any, of BART's evolution prompted developers to locate new office buildings near BART stations. Within the purview of each hypothesis, issues of specific interest for individual cities are investigated.

The hypotheses and sub-issues are as follows:

1. The regional pattern of office construction and rehabilitation has changed as a result of BART.
 - The older office centers of downtown Oakland and San Francisco have been reinforced by BART.
 - Newer suburban office centers such as Walnut Creek and Fremont have been able to increase their share of regional office space because of BART.
 - End-of-the-line cities (Fremont, Concord, Richmond and Daly City) have experienced increased office construction because of their strategic locations.
2. BART station areas have experienced more intensive office construction and rehabilitation than they would have experienced without BART.
3. Businesses occupying offices in BART-induced development areas serve higher income tenants, employees or clients and have displaced offices serving lower income or minority tenants, employees or clients.
4. Developers of BART station-area office buildings were prompted by the publicity generated by BART's planning phase.

¹ These hypotheses are refinements of the "Hypothesis for the Study of the Office Construction Industry" outlined in John Blayney Associates/David M. Dornbusch & Company, Inc., BART Impact Program Study Design and Project Implementation Plan—Land Use and Urban Development Project, prepared under contract with the Metropolitan Transportation Commission for the U.S. Departments of Transportation and Housing and Urban Development (San Francisco, 1977), pp. 34, 35.

APPROACH

Building Permit Analysis

Introduction — We attempted to judge BART's effects on office construction by studying changes in office construction and rehabilitation location patterns. Below we describe the type of data used for the analysis, the definition of the BART station impact area, and the types of calculations used to test our hypotheses. Limitations of the techniques employed are also discussed. A description of information sources and their limitations follows in the Appendix.

Data Use for the Analysis — Virtually any extensive structural activity requires a building permit. Although the details provided by building permits vary from city to city, the basic information contained in local building permit records provides the most complete listing of construction activity. Occasionally cities neglect to formally issue permits for the construction of buildings by or for public agencies, but this is virtually the only construction activity omitted.

Four pieces of information were used from the permit data collected: the address of the construction site, the dollar value of the construction work, the date (month and year) the permit was issued, and whether the work was for new construction or for an addition or alteration to an existing building.²

Although the date of issuance of a permit precedes the date of actual construction of the building, we chose to use it as our point of reference for both theoretical and practical reasons.³ The date of permit issuance is closer to the actual (potentially BART-related) decision to build or rehabilitate than is the date of building completion. Of course, the date of permit application is even closer to the decision point, but the date of issuance is more readily available than the dates of permit submission. Estimated construction costs appearing on the building permits may understate the actual costs, but since the data was used in a comparative manner (e.g., a city's share of regional construction) this bias should not affect our analysis.

The estimated cost of construction, which is almost always recorded on permits, was used to compare the level of building activities within regions of each community and among the different communities in the BART system. The dollar

²In the text, *rehabilitation* is intended to be synonymous with *alterations* and/or *additions*.

³Figures indicating the square footage of office space built in new construction activities could also be used for comparing building trends, but such figures were usually not available in the same place as was the building permit data, and time was not available to match up each of the one thousand, plus, permits for which information was gathered with indexes of property, such as the REDI Corporation Realdex, that give square footage information.

value of construction activities is a measure used by the Census Bureau, banks and city agencies, and comparisons for the purpose of data verification were therefore easily made.

Each building permit address was noted as to whether or not the construction activity was located within an estimated BART impact area. Rather than employing a detailed analysis to determine the BART impact area for office construction, we made an estimate of the impact zone, intending to increase or decrease its size if such a change was later found necessary to improve analytical sensitivity. In general, we felt that a perimeter one-third of a mile from BART stations was large enough to include most BART effects but small enough to exclude most non-BART-related effects.

Exceptions were made in two areas. In downtown San Francisco, one-third mile (or about five blocks) would have included nearly all of the Financial District. To focus more directly on the BART effect, we used a two-block radius to define the estimated impact area. In Fremont, where there was a large undeveloped area surrounding the BART station and where few potentially covariant influences existed, the impact radius was extended to 0.6 mile. (We later checked the impacts manifested within one-third mile of the Fremont station to compare the differences.)

Data Validation — Before analyzing the data collected, we checked its accuracy and completeness. For cities in Alameda and Contra Costa Counties, we compared the annual total dollar values of new office construction with the annual totals of summary figures compiled by the Security Pacific Bank since 1963. In San Francisco we compared the figures compiled with monthly reports prepared by the San Francisco Central Permit Bureau for the Census Bureau. We were unable to verify office construction figures for any of the data obtained for alterations and additions for accuracy or completeness. But there is no reason to believe that the figures obtained are inaccurate.

Data Manipulation — The techniques we used for analyzing the office construction data were as follows. First, permit data was sorted by year and by city. Within each city, the data was divided into categories for new construction and for alterations and additions and then subdivided according to whether the construction occurred inside or outside of the estimated BART impact zone. Data for alterations and additions of under \$100,000 were generally ignored since this information was available in too few places to be useful in making a comprehensive analysis.⁴ Data for new construction of under \$10,000 was also ignored as being insignificant.

Calculations were then made to test the validity of the hypotheses proposed in this study. For each BART station area, the annual amount of office construction was calculated as a percent of office construction in its community and as a percent of total annual office construction in the BART region. The percent

⁴ Walnut Creek was the one community for which we had nearly complete data for alterations of under \$100 thousand. We found that they displayed roughly the same patterns as the new construction data.

of BART area office construction accounted for by each city was also computed for each year. As needed, similar calculations were made using combinations of years, station areas or cities. By analyzing changes in geographic patterns of office construction over time, we determined their share of office development activity in particular communities and in the area as a whole. We also evaluated how office construction has shifted among communities. Where these analyses indicated that BART station areas had an increased share of local office construction, we performed T-tests on the data to investigate whether the period before BART construction, the BART construction period, and the period of BART operation exhibited significant (at a 5 percent risk level) different patterns of office construction.

Typically, no single trends of increasing or decreasing construction rates were apparent from the analyses, either for the BART station areas or for an entire city. Rather, patterns of large fluctuations between years were the rule. We often found that significant new construction activities within a city had taken place in intervals of two or three years with little or no office construction activity in between.

To better examine this phenomenon, we aggregated the data into three-year groupings, using 1960 to 1962 as one group, 1961 to 1963 as a second group, and so forth through 1976 (1977 not being a whole year). This smoothed out some of the gyrations in the office construction patterns, making general trends clearer. However, the groupings also allowed for a single large construction project to dominate three consecutive year groupings. Consequently, apparent trends had to be examined closely for such influences.

Some special types of data and analyses deserve mention. A category was established for office construction on Market Street within two blocks of a BART station. Statistics for the amount of office construction activity on Market Street as a percent of office construction in San Francisco as a whole were used to determine whether office construction has tended more towards Market Street over recent years.

To help examine BART's displacement of offices serving lower income tenants, office demolitions in the Oakland region of the BART line (but not on land acquired for BART or highway construction) were compared with office demolitions elsewhere in Oakland. Comparisons were made among the pre-BART, BART-construction, and BART-operation periods.

We performed a separate analysis of office alterations and additions in San Francisco of under \$100,000 in value. Since the interval between the time a small alteration is planned and carried out is probably short in comparison to that for a large office building, and since a large number of these small permits are issued each year, we hypothesized that early BART impacts on office rehabilitation might be reflected in net shifts in the location of small permits. Therefore, the percent of small office alterations taking place near downtown San Francisco BART station areas was calculated for the years 1962, 1968 and 1975. These years represent one year before BART construction began, a year in the midst of BART construction and the first full year of trans-Bay operation.

Key Informant Interviews

Ideally, it would have been possible to base our analysis of BART's impact on office location entirely upon building permit patterns. Two difficulties, however, preclude relying exclusively on these data. First, decisions of whether to construct or rehabilitate an office building and where to locate the building result from complex choices involving many variables.⁵ We therefore faced the possibility that a building permit analysis would not produce reliable, i.e., interpretable, results.

Second, many of the variables which clearly influence a decision of where to locate a building are not mutually independent. Some of the more important variables are in some cases covariant with BART's influence. Zoning, for example, may allow large buildings near a BART station and progressively smaller buildings at greater distances.

In order to provide back-up information, therefore, in case the building permit analysis encountered serious problems and in order to gain insight into the trends we discovered around station areas, we interviewed more than fifty persons privy to office location decisions. We interviewed developers, realtors, bankers, city officials, investors, major employers and community leaders. Key informants were chosen on the basis of their familiarity with specific BART-vicinity office buildings, with station area office districts in general, or with community social characteristics potentially influenced by BART.

We attempted to choose enough key informants to cover the entire three-county BART area; in particular, we focussed on those communities where our preliminary building permit review had demonstrated that significant office construction had occurred, viz., San Francisco and Oakland. In addition, we focussed on three communities with extensive minority populations—Oakland, Richmond and San Francisco's Mission District—in order to ascertain whether minorities were affected differently by BART than were whites. A list of the key informants is shown in **Table 1**.

We asked each informant to describe his familiarity with BART history and his knowledge and/or perception of BART-induced office changes, including locational, character and timing aspects. We then asked what factors were important in the office location decision and how BART had entered into the decision. We also asked how this decision would have been affected had BART not been constructed. A complete list of the questions posed is presented in **Table 2**.

LIMITATION OF THE ANALYSIS TECHNIQUES

Our approach was to look for shifts in the temporal and geographic patterns of office construction and rehabilitation that might be related to the BART system. Since we employed no techniques which could effectively isolate the BART

⁵See Douglass B. Lee, Jr., Pre-BART Studies of Environment, Land Use, Retail Sales, Part III, Vol. I, "Key Informant Interviews," Chap. II (BART Impact Studies, BART II Final Report (1973)).

TABLE 1
KEY INFORMANTS

<u>Informant</u>	<u>Geographic Area Discussed</u>
1. Representative* - Equitable Life Insurance	San Francisco
2. Representative - Major Bank*	San Francisco
3. Hal Thomas - Systech	Walnut Creek
4. Bill Cole - Coldwell Banker	San Francisco
5. H. W. Ehlers - Milton Meyer	San Francisco
6. Bernard Averbuch/Sharon deZordo - Market Street Development Project	San Francisco
7. Norm Meltzer - Interland	Walnut Creek
8. Representative - Office Developer*	San Francisco, Walnut Creek, Oakland, Richmond
9. Orra Hyde - Coldwell Banker	San Francisco, Walnut Creek, Oakland, Other East Bay
10. Representative - Major Bank*	San Francisco, Concord, Berkeley, Oakland
11. Kirby - General Services Administration	San Francisco, Richmond
12. Ed Zwolenkiewiez - Blue Cross	Oakland
13. Gerson Bakar - Gerson Bakar Associates	San Francisco
14. Bob Stevens - Bob Stevens, Inc.	Walnut Creek, Lafayette, Concord
15. Steve Dietrich - Tooley & Co., L.A.	San Francisco
16. Representative* - Marathon Development	San Francisco
17. Dan Clap - Century 21 Realty	Fremont, Hayward, Union City

*wishes to remain anonymous

TABLE 1
KEY INFORMANTS
(Continued)

<u>Informant</u>	<u>Geographic Area Discussed</u>
18. Francis Sitek - Standard Oil of California	San Francisco
19. Cathy Seabury - El Cerrito Plaza	El Cerrito
20. Robert Marshall - Cushman & Wakefield, Oakland	East Bay
21. Patrick O'Keefe - Concord Planning Dept.	Concord
22. Ed Phillips - Concord Planning Department	Concord
23. Charles Gabrysiak - Concord Planning Dept.	Concord
24. Robert Anderson - Citizens' Savings and Loan Association, S.F.	Oakland
25. Peter Crosby - United California Bank	Oakland
26. Raymond Haymon - Grubb & Ellis Commercial Brokerage Company	Oakland
27. David Hoard - Oakland Community Develop- ment Agency	Oakland
28. Michael Kaplan - City Architectural Department	Oakland
29. Norman Lind - Oakland Planning Department	Oakland
30. Dene Ogden - Real Estate Appraiser	Oakland
31. Noboru Nakamura - Architect/Planner— VanBourg, Nakamura, Katsura, Karney, Inc.	Oakland
32. Oscar Perez - Spanish Speaking Unity Council	Oakland
33. Representative - Neighborhood Organization*	Oakland
34. B. T. Anderson - Jones Memorial Methodist Church, S.F.	Richmond

*wishes to remain anonymous

TABLE 1
KEY INFORMANTS
(Continued)

<u>Informant</u>	<u>Geographic Area Discussed</u>
35. Nathaniel Bates - Alameda Probation Dept.	Richmond
36. Kenneth Berndt - Central Bank, El Cerrito	Richmond, El Cerrito
37. William Evans - Management Services Corp.	Richmond
38. Charles Harris - Real Estate Broker, El Cerrito	Richmond
39. Tom Hirschfeld/Al Jones - Richmond Redevelopment Agency	Richmond
40. John C. Marziano - Pacific Bay Real Estate	Richmond
41. Ed McKeegan - Real Estate (retired)	Richmond
42. James McMillian - Pharmacist	Richmond
43. Paul C. Petersen/Ken Hooper - Whitecliff Homes	Richmond
44. Chuck Woodward - Richmond Planning Dept.	Richmond
45. Martin Del Campo - Architect, Del Campo Associates	S.F. Mission District
46. Elwood Hansen - Bay View Federal Savings and Loan	S.F. Mission District
47. Red Kernan - San Francisco Redevelop- ment Agency	S.F. Mission District
48. Rai Okamoto - San Francisco Planning Department	S.F. Mission District
49. Ben Ramos - Mission Economic Develop- ment Association	S.F. Mission District
50. Architect/Builder-Contractor*	S.F. Mission District
51. Mackey C. Salazar - Attorney/Building Owner	S.F. Mission District

*wishes to remain anonymous

TABLE 1
KEY INFORMANTS
(Continued)

<u>Informant</u>	<u>Geographic Area Discussed</u>
52. Representative - Major Bank*	S.F. Mission District
53. Lee Soto - Arriba Juntos	S.F. Mission District

*wishes to remain anonymous

TABLE 2
KEY INFORMANT INTERVIEW QUESTIONS

- A. Personal background: was the informant present during BART construction; what was his/her job at that time?
- B. Date of familiarity with BART

Location – Prompt with office changes in station area

- 1. To what extent has BART influenced office construction or rehabilitation in the station areas?
- 2. What has been the importance of BART relative to other locational influences--e.g., zoning, other businesses?
- 3. What role did government persuasion (i.e., zoning and redevelopment schemes) play in location decision?
- 4. Where was your (developer's) second choice--where would office buildings have been built if BART had not been constructed?
- 5. To what extent is BART responsible for the shift south of Market Street?
- 6. Do you know of any specific buildings which were strongly influenced by BART?
- 7. Has the demand for office space near BART met or exceeded expectations?

Timing

- 8. Which BART phase was the most influential in construction of office space: planning, referendum, construction, operation?
- 9. Did BART's construction phase postpone or eliminate office construction or rehabilitation near the station areas?

Character

- 10. What was on site before present building?
- 11. Can you/developers charge premium for BART proximity?
- 12. Has there been near BART stations a change in use (e.g., service to office), in users (e.g., minority to white), or in owners (e.g., minority to white or absentee)? Reason? Any displacement of minorities?
- 13. Did the construction of the BART station increase or decrease the number of offices occupied by minority groups in the adjoining area?

TABLE 2
KEY INFORMANT INTERVIEW QUESTIONS
(Continued)

14. What factors related to land use caused this change in occupancy by minorities (increase in land price, type of business in which minority groups were involved, general space limitations, lack of involvement of minority groups in business)?
15. Have minorities been involved in development (landowners, developers, contractors) to a lesser or greater extent than is usual for area?

Contacts

16. Do you know other knowledgeable people we could speak with?
17. Would you mind being called again?
18. Can we attribute this interview to you?

effect from other influences which might have been covariant in time or space, the results of the data analyses themselves cannot conclusively indicate BART impacts. We compared our analyses of the building permit data with the opinions of knowledgeable key informants, and to the extent that the informed opinions either substantiate or contradict the trends or pattern shifts that seemed to emerge from the analyses, we can state our conclusions with some subjective amount of confidence. However, they cannot be presented with statistical checks indicating objective levels of confidence.

An inherent limitation of the key informant interview technique is that the method necessarily relies on the informants' memory and personal biases. It is pertinent to note that the initial "selling" of BART before the referendum in November, 1962, BART's and subsequent public relations efforts may have generated many preconceptions about what effects the system would have. We were concerned that peoples' sense of BART has continued to be influenced by these early popular opinions rather than by the actualities of the construction and functioning of BART. The information gathered from key informant interviews, therefore, was regarded critically and was used primarily to supplement and clarify the results of our building permit analyses.

Another limitation of the key informant interview technique is that often informants find that they cannot articulate the relative importance of the many factors which enter into a decision. As we have noted, office location decisions are based on a number of factors, many of which are related. Most informants can list the factors which were considered in their decision but cannot rank them. Therefore, our conclusions must be limited to whether BART has been one of many important considerations in office location decisions. Consequently, we were not able to conclusively assess the influence of BART relative to other significant factors.

A limitation of the data analyses has to do with the fact that the number of office permits in any individual city has often been small. Furthermore, whenever a major building is constructed, the cost of that building is so large that it creates a noticeable peak in time series construction cost data. These peaks often tend to obscure any overall trends in the data.

3. FINDINGS—BART'S EFFECTS ON OFFICE CONSTRUCTION INDUSTRY

The San Francisco CBD has historically been the most important office center in the Bay Area. Oakland's and San Jose's CBDs constitute secondary office centers, and suburban communities (some with their own small office centers) radiate from each.

The location of the suburban areas is constrained to a great degree by the Bay Area's topography. San Francisco lies on the tip of a peninsula and is accessible from the Marin County suburbs only by ferry and the Golden Gate Bridge and from the East Bay communities only by bridge and BART. San Mateo County, on the other hand, shares the Peninsula with San Francisco, and its development began early relative to the rest of the Bay Area.

Much of the Bay is ringed by hills and suburbs have filled the narrow flatlands between the Bay and the hills. Present urbanization, therefore, rings the Bay, with major development breaching the hills only in Central Contra Costa County, an area connected to the rest of the Bay Area by a major freeway and by BART.

One portion of the Bay Area experiencing rapid growth is not served by BART at all. The South Bay area, Santa Clara County, has grown from 640,000 persons in 1960 to 1,193,000 in 1975,¹ by far the largest increase in the Bay Area. Clearly, BART has not been a necessary condition for growth in this county or for San Jose, its commercial center.

Other suburban areas which are served by BART exhibit mixed growth rates. Cities on the Concord line (Orinda, Lafayette, Walnut Creek, Pleasant Hill and Concord) and Fremont line (San Leandro, Hayward, Union City and Fremont) have grown rapidly since 1960. Cities on the Richmond line (Berkeley, El Cerrito and Richmond) and neighborhoods on the Daly City line (San Francisco neighborhoods and Daly City) are older communities, and they have not grown dramatically during the past fifteen years. BART's role in changing the regional growth patterns is discussed below.

¹ Knight and Trygg, Land Use Impacts of Recent Major Transit Improvements, Draft Final Report, prepared for the U.S. Department of Transportation, April 1977.

HYPOTHESIS 1: The regional pattern of office construction and rehabilitation has changed because of BART-improved service and accessibility.

The older office centers, especially downtown Oakland and San Francisco, have been reinforced by BART.

Both San Francisco and Oakland have experienced substantial office construction during the past eighteen years, but neither city has increased its share of regional (three-county BART region) office construction over this period. (In fact, a very slight decrease is evident from more than 80 percent in the early 1960s to less than 75 percent in the mid-1970s.)

Key informants were able to identify only a few buildings which might have located in a different part of the Bay Area but for BART. They are:

- Social Security Administration - Richmond (11, 34, 39)²
- Amtrack Station (planned) - Richmond (35, 39)
- City Center Project (two buildings completed—three others planned) (28, 29, 30)
- Alameda County Courthouse - Fremont (17)

Three of the four centers affected are in Richmond and Oakland, indicating that the small redistribution that might have been BART-induced has reinforced the older cities. However, no informants (including building developers) told us that San Francisco has attracted any buildings that might have located in another city had BART not been built. (Two informants did forecast that BART would permit continued growth of San Francisco's Financial District when saturation of the Bay Bridge would otherwise preclude its expansion.) (5, 9) Neither have the well-established communities on the Richmond line experienced an increase in office construction. Two exceptions, the Social Security Administration Center and an Amtrack Station, were mentioned earlier. There is also a Kaiser Hospital under construction in Richmond. Berkeley has two new financial buildings in its downtown, the Great Western Savings & Loan and Bank of America buildings. However, none of these developments can be considered indicative of a general expansion of office development along the Richmond line.

Newer suburban office centers, such as Walnut Creek and Fremont, have been able to increase their share of regional office space because of BART.

Although Central Contra Costa County (Concord line) and Southern Alameda County (Fremont line) have doubled their share of new office construction (14.2 percent in the 1974-76 period versus 7.0 percent in the 1963-65 period), in most cases the increase does not appear to be directly attributable to BART. In fact,

²The italic numbers in parentheses refer to the key informants (listed in Table 1) who provided the referenced information.

these areas are precisely where population in the BART area has grown most rapidly. For example, Fremont in 1960 contained 2 percent of the three-county BART area population and in 1975 had 5 percent of the area population. Similarly, Walnut Creek has grown from one-half of one percent to two percent of the area population. Only one suburban building was identified (Alameda County Courthouse in Fremont) which might have located in a different part of Alameda County had BART not been built.

Walnut Creek, in Central Contra Costa County, also doubled its share of regional office construction (1.3 percent in 1960 - 1966 versus 2.5 percent in 1967 - 1976). In Walnut Creek, however, new office construction occurred near the BART station and BART may have influenced the city's gain in office construction. One building, the Walnut Creek Plaza, was specifically drawn by BART to locate near the BART station.

Although we were unable to detect any direct BART inducement of suburban offices, the fact remains that the suburban share of offices did increase during BART's development. A possible indirect BART effect which we were not able to confirm or refute is that BART attracted new residents to the suburbs and that this additional population in turn attracted new offices to the suburbs.

End-of-the-line cities (Fremont, Concord, Richmond and Daly City) have experienced increased office construction because of their strategic locations.

A plausible argument may be made that because BART terminus cities serve as collector points for the BART system and therefore experience heavy traffic flows, and because these cities enjoy such good transit access, the cities would attract above-normal office construction. This has not been the case.

Daly City has had significant office construction during the 1970s, but the construction has been primarily in the southern part of the city, with none of it near the BART station.

Fremont and Concord have not increased their share of office construction. In fact, the new courthouse in Fremont was the predominant reason Fremont's share of 1976 office construction increased at all, and this building can hardly be regarded as indicative of a rise in office construction.

Except for the Social Security Administration building, office development in Richmond has remained at a low level.

HYPOTHESIS 2: BART station areas have experienced more intensive office construction and rehabilitation than they would have experienced without BART.

San Francisco - Central Business District

Employment in office industries has grown rapidly in San Francisco Since the early 1960s, and as a result office construction has flourished in downtown San

Francisco. A total of more than 21 million square feet, or 1.2 million square feet per year³ has been added to downtown San Francisco from 1960 through 1976. Several buildings are currently under construction and enough are planned to sustain the pace through 1980.

Most of the new office buildings in San Francisco's business district have located within five blocks of a BART station. This has occurred for two reasons. First, BART was planned to provide convenience to the area where office buildings had already located. Hence the new buildings' proximity to BART is generally a continuation of an established pattern. Second, because land is available along Market Street at reasonable prices and the business district is constrained in other directions, it was inevitable that major offices would eventually spread to and beyond Market Street.

The business district is compact and constrained on three sides. Nob Hill begins to the west of the business district at about Kearny Street. Because developers tend to avoid locating office buildings on a hill, Kearny marks a western boundary. Washington Street on the north is the limit of high-rise zoning—no tall building could locate beyond Washington. The Bay limits expansion to the east, so southward towards Market Street was the only direction for expansion. Although the business district has a few large vacant sites where office buildings could be constructed and replacement of smaller buildings on existing and assembled lots was possible, the Market Street area offered relatively large vacant sites at lower prices than did the traditional business district. A Wells Fargo Bank study of land sales from 1964 - 1969 showed the average price per square foot to be \$97 north of Market and \$11 south of Market.⁴ Market Street also was lined with declining older commercial buildings, opportune for redevelopment. Therefore, the Market Street area offered the most attractive sites for new office construction.

Two interesting questions are (1) why did it take so long for offices to locate on Market Street, and (2) what role did BART play in redirecting office locations.

In the 1950s, Market Street marked a definite boundary of the prestigious office area. Buildings which offered space for lease, known as "competitive" office buildings, did not locate along Market Street much less south of Market. The heart of the business district was Montgomery, Sansome and California Streets, an area several blocks north of Market.

The Market Street area was developed only for single firms and institutions occupying the entire space, such as Pacific Gas & Electric, Matson Shipping, Bechtel and Standard Oil.

Developers of competitive office buildings avoided Market Street because of the allure of locating within the established north-of-Market business district

³San Francisco Department of City Planning, "Major Office Buildings Downtown," March 1977.

⁴Wells Fargo Bank, Appraisal Department, "Land Sales," Tables XI and XIII, 1969.

and because of the unattractiveness of the Market Street area. In the 1950s four trolley rails ran down Market and automobile traffic was heavy. Buildings on Market were generally old and declining.

The first major post-war competitive office building to locate on Market Street was the Crown Zellerbach Building (340,000 square feet) in 1959. Although the property abuts Market Street, the building's entrance is on California and its address is One California.

Only a few competitive office buildings located along Market Street between 1959 and 1968 (Fox Plaza - 310,000 square feet, and away from the financial district; Wells Fargo Bank - 717,000 square feet, with a Montgomery Street address). Then beginning in 1969 new competitive office buildings started becoming common along Market Street.

- 1969 — Mutual Benefit Life (570,000 square feet)
 - Aetna Life (455,000 square feet)

- 1973 — Tishman-Cahill (1,040,000 square feet)
 - Metropolitan Life (997,000 square feet)

- 1974 — One Hallidie Plaza (66,000 square feet)

- 1976 — One Market Plaza (1,650,000 square feet)

Figure 1 shows the location of major office buildings (costing at least \$1 million) in downtown San Francisco during the 1960 to 1977 period. Each of the four maps in Figure 1 isolates the construction during a different BART phase:

- Pre-BART: January 1960 - October 1962

- BART planning phase: November 1962 - June 1967

- BART construction phase: July 1967 - September 1974

- BART operation phase: October 1974 - April 1977

The maps illustrate the locational shifts of office construction and indicate a definite southward trend. (The periods are of different lengths, and consequently do not represent comparative building intensity.)

The proportion of San Francisco's major new office buildings constructed south of Market Street steadily increases during the period, from none before BART construction to 33 percent during BART's planning phase, to 50 percent during BART's construction, to 88 percent after trans-Bay operation began.

Similarly, office construction within one-half block of Market Street climbed from none pre-BART to about 25 percent during BART planning and construction, to 50 percent after BART initiated trans-Bay service.

Both interpretations of the development pattern show a definite trend away from the traditional north-of-Market business district to Market Street and Southward.

Several factors contributed to this shift. Land availability along Market Street was quite important. It was not the case that the north-of-Market business district simply ran out of developable land. Development in the traditional areas

Jan. 1960 - Oct. 1962 (Pre-BART)

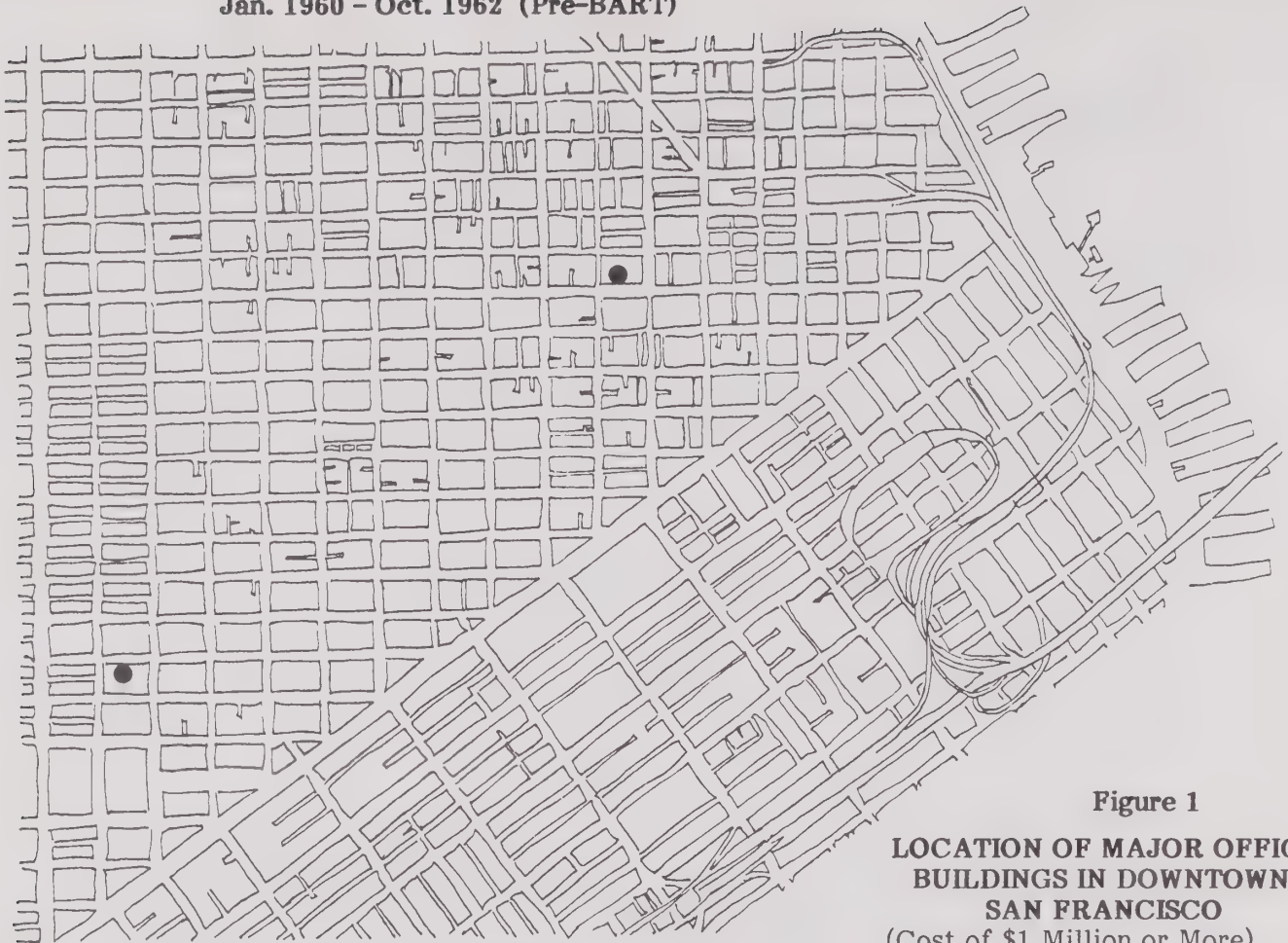


Figure 1

**LOCATION OF MAJOR OFFICE
BUILDINGS IN DOWNTOWN
SAN FRANCISCO**
(Cost of \$1 Million or More)

Nov. 1962 - June 1967 (BART Planning)



July 1967 - Sept 1974 (BART Construction)



Figure 1
(Continued)

Oct. 1974 - Apr. 1977 (BART Operation)



has continued since 1970 along with development on Market. The cheaper land and large sites available south-of-Market, however, was a strong incentive for a redirection of growth.

Access to various transportation modes was another factor inducing a shift towards Market Street. Market Street is a major transportation focus in San Francisco, with ferries to Marin County, buses to the East Bay, buses and streetcars to the rest of San Francisco, and the freeways, located on or near Market, to the East Bay and Peninsula. BART now runs beneath Market Street and adds to the corridor's importance.

BART's most significant contributions to the shift towards Market were indirect. BART facilitated the Market Street Development Project, which in turn has been credited as a major contributor to redirecting office growth towards Market Street. Voters in San Francisco, Alameda and Contra Costa Counties approved a BART referendum in November, 1962, insuring development of the system. In December, 1962, only weeks after the successful BART referendum, the Market Street Development Project was proposed. Informants versed in city politics during that period believe that the Market Street Development Project would have never been approved if the BART referendum had not been successful. (18)

The Market Street Development Project sought to capitalize on the temporary BART construction on Market Street by redesigning and rebuilding the streets and sidewalks. The Development Project was financed jointly by federal grants, BART and a \$24 million San Francisco bond election.

The Development Project's effect is dramatic, with wide, brick sidewalks and numerous trees. Undoubtedly, the Development Project has contributed to the general upgrading of Market Street and to the willingness of developers to locate new offices on Market.

The second indirect BART effect is that BART engendered the Downtown Zoning Study, which resulted in new zoning codes being adopted in 1966. The 1966 codes allowed highest densities in the Financial District, with a maximum floor-area ratio (FAR) of 14:1. Buildings providing direct access to BART were granted a 20 percent bonus in FAR while buildings within 750 feet of a BART station received a 10 percent bonus. Office buildings within two to three blocks of the Market Street transit corridor were exempt from parking requirements.⁵ (The Public Policy Project of the BART Impact Program will address BART's impact on zoning changes in San Francisco and other cities.)

Key informants, when asked the reasons for new office buildings locating on Market Street, mentioned all of the above reasons. Not all informants mentioned all reasons, however, and no pattern emerged which would enable a ranking of the reasons.

Some informants denied that height or FAR zoning played an important role. One suggested that zoning defined a general area within which he could locate a new (240,000 square feet) office building, but did not severely restrict his

⁵San Francisco Department of City Planning, San Francisco Downtown Zoning Study, 1966.

choice. (15) Another informant explained that the bulk restrictions on building size limited each floor to approximately 19,600 square feet and that floor size in turn limited the economically feasible height to about thirty-four stories. (5) This fact reduces the importance of the overall height limitations.

When asked about specific buildings key informants could identify several buildings which have probably been affected by BART. The informants generally acknowledged some BART influence and cited other factors which in turn were affected by BART (Market Street Development Project, or zoning), but also included factors which were correlated to BART (site availability, cheap land, proximity to other buildings). The buildings attributable in some degree to BART are:

- Mutual Benefit Life Building (570,000 square feet, 1969) (1 California Street) (5)
- Building presently being constructed by Marathon Development (350,000 square feet, 1980) (Market and 2nd Streets) (16)
- State Compensation Fund Building (350,000 square feet, 1977) (8th to 9th Street on Market) (6)
- Building on periphery of financial center (100,000 square feet, 1974) (location confidential) (8)
- Orpheum Building renovation (1182 Market Street) (6)
- Site for new Federal Building (planning stage) (Market and 4th Streets) (11)
- Major financial building (planning stage) (location confidential) (2)

The shift towards Market Street in new office construction has not been accompanied by a corresponding increase in office building alterations and additions. Our analysis shows a definite decrease of both major (\$100 thousand or more) and minor (less than \$100 thousand) alterations and additions in the region within two blocks of a downtown BART station as a function of total alterations and additions in San Francisco. The decline is illustrated in **Figure 2**.

In summary, new office growth in San Francisco has been redirected to the Market Street area. The redirection has coincided in time with BART and to some limited extent BART can be said to have facilitated the redirection. BART's indirect effects appear to have been at least as important as BART's direct improvement of transportation. Strong land prices and site availability incentives and constraints on alternative locations acted as powerful non-BART inducements for Market Street growth, so perhaps the redirection would have occurred regardless of BART. BART, however, may have at least accelerated the shift. Firm conclusions either way cannot be drawn. In contrast, office building alterations and additions in San Francisco are becoming less likely to be found near Market Street.

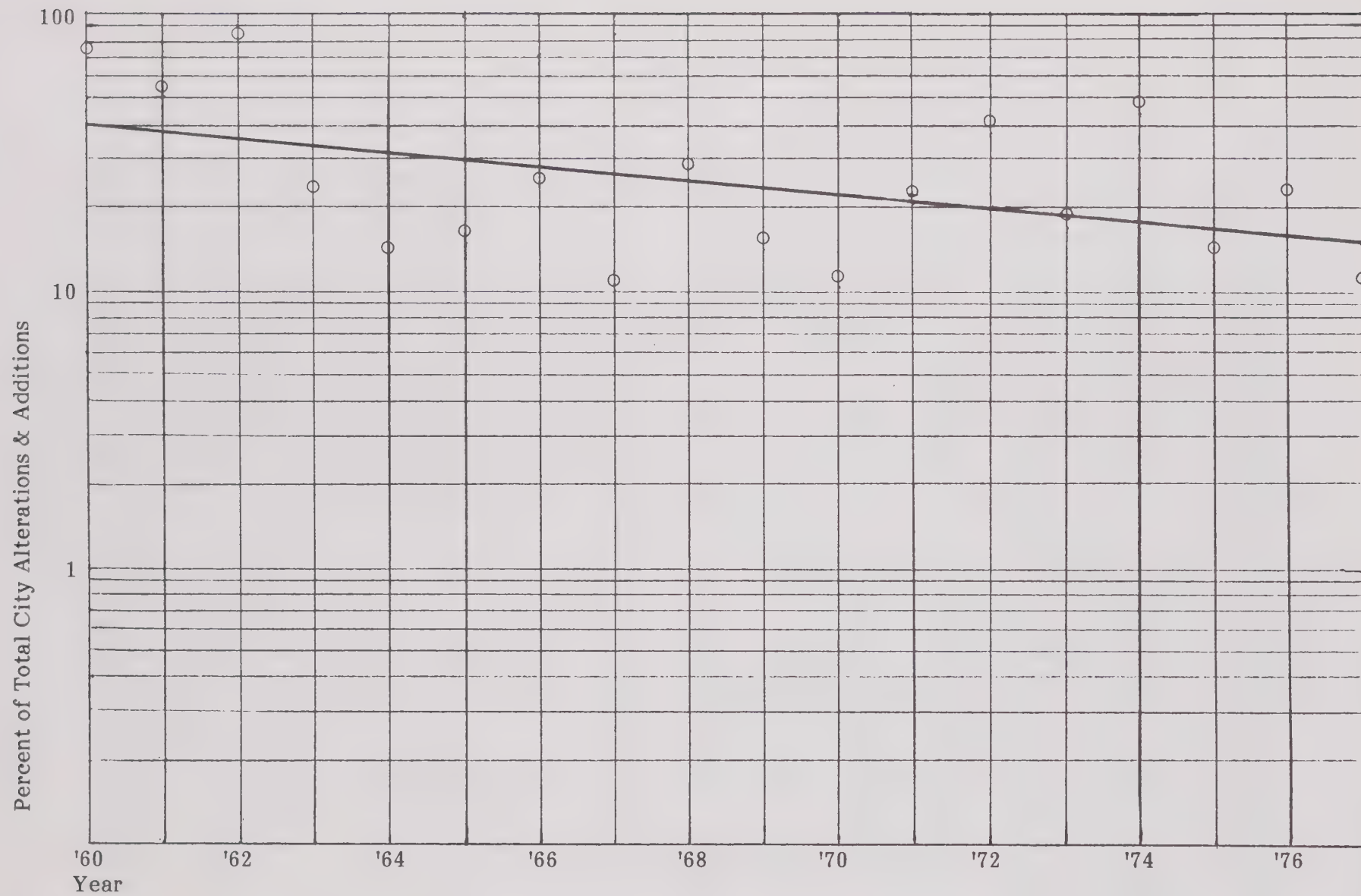


Figure 2
SAN FRANCISCO DOWNTOWN STATIONS - ALTERATIONS & ADDITIONS
Annual Percent of Total City Alterations & Additions (\$100 thousand or more)
Occurring Within Two Blocks of San Francisco Downtown BART Stations

Oakland

After San Francisco's CBD, Oakland contains the largest business district served by BART. Oakland is located across the Bay from San Francisco, at the center of the BART system. Its population growth leveled off from its World War II peaks as suburban communities attracted families from the city as well as immigrants from other areas. In 1970 it reported a population of 361,567, representing the third largest city in the Bay Area, after San Francisco and San Jose, and nearly one-third of Alameda County's total population. Approximately one-half of the population consisted of various minority groups.

During the 1950s and 1960s, Oakland lost approximately one-third of its total white population. Within the City, housing depreciated and most new construction was in the form of low-priced rental units.

The population shifts which occurred during the pre-BART period set in motion a steady decrease in retail sales and general business activities in the Oakland downtown area. Before completion of the BART stations in the Oakland area, the Oakland business district had begun to shift northward along Broadway and Franklin Streets.

The BART Stations — Within the City of Oakland there are seven BART stations. Among these, Lake Merritt, 12th Street, and 19th Street are located in downtown Oakland. The stations are underground and include the system's transfer points at its north-south and east-west intersection. Within a one-mile radius of the three stations live approximately 83,000 people.

It was hoped that these stations would invigorate Oakland's downtown area. However, there has been only a slight increase in new office construction near the 12th and 19th Street Stations (and little or no increase near the other five stations). Although small, the development near the two downtown stations represented as much as 40 - 50 percent of all office construction in Oakland in the 1960s and 60 - 80 percent in the 1970s. The data exhibit an increasing trend (at a 90 percent confidence level).

In anticipation of the location of BART stations near the Oakland City Center, the Redevelopment Agency as early as 1965 initiated the City Center Project at Broadway and 14th Street. The location of the BART station in the project area was a key factor in securing federal funds, since the cost of the BART station was included in the city's required share of project financing. (Two high-rise buildings which were part of the City Center Project, Wells Fargo and Clorox, were completed, but the planned hotel and convention center have yet to be built.)

Unfortunately, the new office construction has simply shifted some occupancy from old to new office buildings, increasing the vacancy rate rather than increasing the number of offices in use. An example given by an informant was the Central Building in downtown Oakland, which was at 90 percent occupancy prior to the partial completion of the City Center Project and 35 percent after. (33)

The increasing vacancy rate in the older office buildings near the 12th and 19th Street stations accounts for the drop in these areas' share of the City's office alterations and additions costing \$100 thousand or more. Between 1960 and 1967

the areas accounted for over 90 percent of Oakland's alterations and additions of over \$100 thousand, between 1968 and 1972, 70 percent and between 1973 and April 1977, the areas accounted for only 60 percent of Oakland's alterations and additions.

Moreover, construction in the area including City and County offices has not generated the business activity anticipated for the area. With release of funds for extending the Grove-Shafter Freeway, it is possible that current project plans for development of a shopping center and convention hall will proceed.

At the 19th Street station there was no planned redevelopment, but some increase in office space has occurred. (31) Kaiser, with an already established Center, added an office building in this area during the BART development period. Golden West Savings and Loan and Blue Cross also constructed buildings near the stations.

If BART had not been constructed, the City Center Project near the 12th Street station would probably not have been built. (28, 29, 30) It is likely that development would have occurred around the 19th Street station, however, even without BART. Blue Cross, for example, denies that a non-BART situation would have changed their decision to remain in Oakland (12), but one informant suggested that Golden West might have located elsewhere if BART had not been built. (29)

Richmond

Richmond, located at the northernmost tip of the BART system, had a 1970 population of approximately 80,000. One-half were members of various minority groups. Richmond was studied to determine whether BART effects might be different for minority populations.

During the period 1940 - 1945, the population of Richmond increased from 20,000 to approximately 150,000. This substantial growth stemmed from the construction and operation of the Kaiser Shipyards during World War II and the construction in this city of approximately 25,000 temporary war housing units for shipyard workers. During the peak of that period it was estimated that 80 percent of Richmond's housing was represented by these temporary units.

At the end of World War II Richmond lost approximately 95,000 jobs and its population began to decline. By 1970, the population numbered approximately 80,000.

During the early 1950s, a newly organized Redevelopment Agency was given power to assemble the land occupied by these war housing units and demolish these units in anticipation of an extensive city-wide redevelopment program. Three general areas previously occupied by temporary units were developed. (1) The area between 45th and 59th Streets between MacDonald Avenue and the highway to the south was converted to primarily single-family units. Today, the area is a composite of the two patterns of residences and represents one of the city's most densely populated areas. (2) Another area along the western edge of the city was converted to light industry and (3) to the south, warehouses and industries were developed.

Richmond's downtown section did not fare so well. During World War II, a large number of absentee owners capitalized on the then-existing boom town market.

Little investment occurred in the commercial area. As the population declined, the area deteriorated. Attracted by new shopping areas, many merchants moved outside of downtown, adding to the latter's deterioration.

A series of individual efforts to plan shopping centers in the downtown area failed to materialize. By the time the planning and construction of BART was underway, the downtown section of Richmond was almost entirely vacant.

The BART Station — Within the City of Richmond there is one BART station located at 16th and MacDonald Avenue. It consists of a service level platform-type station approached along aerial tracks from the Del Norte Station in El Cerrito. Approximately 73,200 reside within a three-mile radius of the station.

The station is located on the site of the former Santa Fe Railroad Station. The BART line follows the right-of-way formerly occupied by the Southern Pacific Railroad.

Some early consideration was given to locating this station in an area west of the downtown area near 6th and Pennsylvania Avenues. However, various economic factors eliminated this site as a potential location. Among these were (1) the deterioration of downtown Richmond, (2) increased cost involved in extending the BART line to the western part of the city, (3) the availability of the railroad site which was practically unused and (4) the decided decline in potential traveler demand for transportation service from West Richmond.

At present the area adjoining the BART Station remains largely vacant. The land is under the control of the Richmond Redevelopment Agency and efforts are being made to promote its sale and development. There is evidence of progress, some of which can be ascribed to the presence of the BART Station. Among these are (1) a new building occupied by offices of the Social Security System which employs approximately 2,000 people, (2) the beginning of construction of the new Kaiser Hospital and (3) plans for early construction of a station for Amtrak Railroad from the Central Valley.

Since 1970, with the Social Security Building and the building of two smaller office buildings near BART, the share of construction within the BART impact area has increased significantly from less than 50 percent prior to 1970, to 70 - 80 percent during 1969 - 1971, and 100 percent during 1972 - 1974. The high percentages are partially attributable to a lack of much office construction in other parts of Richmond. (Richmond averaged about \$0.5 million yearly in new construction between 1960 and 1976.)

There have been no office additions or alterations of \$100 thousand or more near the Richmond BART station since 1967.

In 1972 the federal government made the decision to locate the Social Security Building near the proposed BART station in Richmond rather than in Oakland. It was assumed that the staff of that agency, then located in San Francisco, could utilize the BART system in moving between home and the new building.

A few years later, Kaiser Hospital made the decision to rebuild in Richmond near the BART station. Transportation service and land availability were given as determining factors. (34, 39)

Amtrak Railroad selected Richmond as its major western terminus. Its station is now under construction adjoining the BART station. This decision was made anticipating the fact that the two stations might unite into a transportation center which could effectively connect points in the Bay Area with other points in the eastern section of the country.

Because of the location selected for the Social Security Building in Richmond, the Redevelopment Agency made attempts to promote a "government center" which would be in the area adjoining the station. This has so far failed to materialize. Later, with the Amtrak location decision, the area was and is still being promoted as a potential "transportation center" joining Amtrak, BART, and A/C Bus System which serves the East Bay. Both decisions reflect the impact of anticipated BART service and its accessibility due to the location of the station.

In summary, prior to the construction of the BART station, the land was occupied by an unused railroad station and its approaching tracks. No development had occurred in that area of the City. A few residences adjoined the general area which was nearby to the decaying Richmond downtown area. There is no evidence to indicate that the land use pattern would have changed in the then foreseeable future. "If BART had never come to Richmond, it would have killed (Richmond's chances for redevelopment)." (39) The Amtrak, Kaiser, and the Social Security buildings would not have been planned for the area without the location of the BART station. In all probability, these facilities would have located in other communities.

Other Commercial Centers

Fremont, the Bay Area's fourth largest city, is the southern terminus of the BART system. The land within six-tenths of a mile of the BART station displays a mixture of new, concentrated commercial development to the southwest of the BART station, a major hospital with an assortment of medical offices nearby to the west, and large tracts of vacant land to the southeast, east, and northeast. The land to the north has a mixture of residential and commercial development and vacant land. The Fremont Civic Center is six-tenths of a mile to the southeast of the BART station. Within this area there has been a reasonably steady stream of new office construction that has, since the early 1960s, accounted for about a third of the value of Fremont's new office construction. Much of this construction, however, is more directly attributed to the presence of Washington Park Hospital and not to BART. (Until recently, for example, the largest new office building in the area was a \$1.4 million medical office building adjacent to the hospital.) There has been no apparent change in the office construction rate for the past eighteen years.

As mentioned earlier, though, a new Alameda County Courthouse is to be built about four-tenths of a mile from the Fremont BART station. It is unlikely that the courthouse would have been located in Fremont had BART not been built. (17) With plenty of vacant land available, the courthouse may attract related office activities to the area, but no such development is yet planned.

Berkeley is one of the older communities in the Bay Area and is the fifth largest Bay Area city. It has three BART stations but no appreciable new development

has occurred near any, apart from three buildings near the Central Berkeley BART station. The entire city has had little new office construction, though. These three buildings account for over 60 percent of the dollar value of new office construction built in Berkeley between 1969 and 1976.

The number of office alterations and additions of over \$100 thousand taking place in Berkeley each year also has been small. Sixteen such permits have been obtained over the past ten years, of which six were for buildings within three-tenths of a mile of the Central Berkeley BART station. No more than one of the permits was issued in any year, and no trend of upgrading offices near the BART station is evident.

In spite of the station's central location, the fourteen-story Great Western Savings and Loan (one of the three new office buildings built near the station) has had major difficulties attracting tenants. Although the building would not have been constructed but for BART, the developer's expectations proved to be overly ambitious. The other two major new buildings near the BART station are a single-store Bank of America branch and offices at 2171 Milvia Street. No key informants attributed either building to BART.

Walnut Creek is located near the end of the Concord line, beyond the first set of hills ringing the Bay Area. Its 1970 population was 40,000 and the entire Central Contra Costa County region of which it is a part is rapidly growing. A major \$2.6 million ten-story office building, constructed adjacent to the BART station in 1972, the Walnut Creek Plaza, was located there because of BART. (3) Dillingham Corporation, the developer, had planned a twin building but has since scrapped the idea. Although Walnut Creek Plaza is now full, the building was partially vacant for several years after it opened.

Walnut Creek Plaza served as a kind of trail-blazer for office construction in that portion of Walnut Creek. A savings and loan office was the only office of any significant size to be built in the vicinity of the Walnut Creek BART station between 1960 and 1972. Since that time, however, nine offices valued between \$100 thousand and \$800 thousand each have been built within three-tenths of a mile of the BART station. The share of the City's office construction that is located near the BART station has risen accordingly, from less than 5 percent in the 1960s to almost a third of the total value of Walnut Creek's new office construction since 1970. (See **Figure 3.**)

The increase in BART station area office construction has also represented a significant growth in Walnut Creek's share of the BART region's total new office construction. Walnut Creek's share of the system-wide office construction doubled from about 1.5 percent in the 1960s to about 3.5 percent from 1974 to 1976.

San Francisco's Mission district dates back to the founding of the Chapel of San Francisco de Asis in 1776 and the relocation of Mission Dolores to 16th and Dolores Streets in 1783. Because of its warm and sunny climate and early transit lines, by the 1860s it was populated by middle class families and was later joined by blue-collar families. Land use patterns were set early: mixed commercial and residential buildings along the main thoroughfares of Mission, Valencia, Market, 16th and 24th Streets with single-family homes, flats and apartments elsewhere.

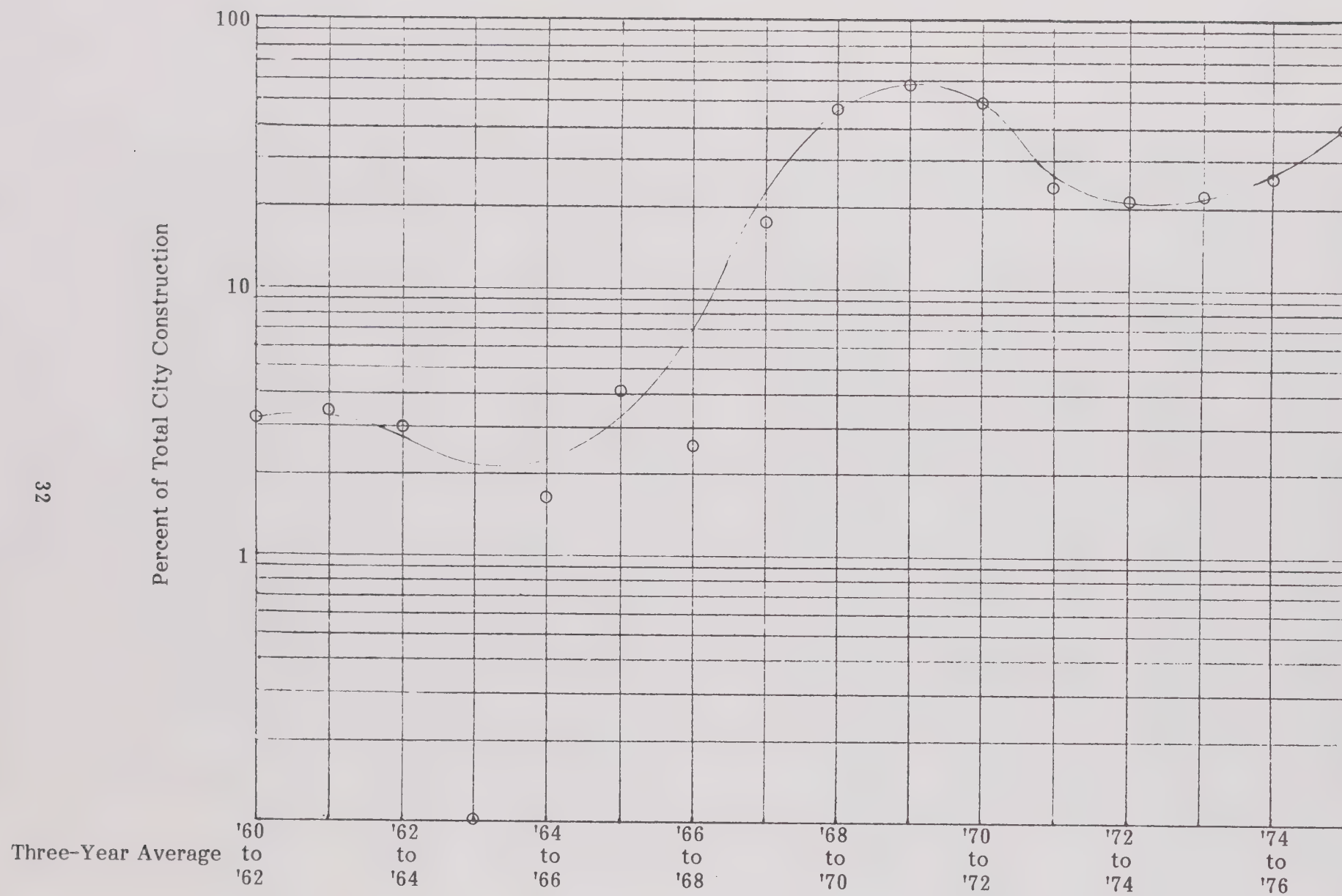


Figure 3
WALNUT CREEK - NEW OFFICE CONSTRUCTION
 Percent of Total City Construction Occurring Within One-Third Mile
 of the Walnut Creek BART Station

Fifty thousand people live within a one-mile radius of each Mission District station. More than half of the population are minorities—Latino, Asian, Black. Since the 1970 census, both the Latino and Asian communities increased markedly, although counts are not available. By the 1960s, when planning for the routing of BART began, much of the housing in the Mission had deteriorated. With a decision to put two stations in the Mission, the City Planning Department began considering plans for redevelopment. Substantial neighborhood opposition to massive redevelopment effectively halted their efforts and resulted in down-zoning the station areas. Since this stand-off in the Sixties, only one significant new office building has been built near the two BART stations. In addition, only three office rehabilitations of \$100 thousand or more have taken place near the Mission stations since 1970.

Other Bay Area communities have generally not experienced significant changes in office location patterns. Most are small communities with modest office buildings and have not been the location for important new office buildings. In fact, the communities near the BART stations not specifically mentioned in this discussion have experienced either negligible increases or slight decreases in their share of new office construction. The net effect of these decreases has been to nearly offset the gains made by Richmond and Walnut Creek in attracting a larger share of new office construction from San Francisco and Oakland.

HYPOTHESIS 3: Businesses occupying offices in BART-induced development areas serve higher income tenants, employees or clients and have displaced offices serving lower income and minority tenants, employees or clients.

San Francisco is the only Bay Area community where BART had significantly influenced the character of the station-area neighborhood. Market Street in San Francisco has emerged from BART, Municipal Railway and Market Street Development Project construction with wide, brick sidewalks, landscaping, new storefronts, major new office buildings and eventual placement of streetcars below the roadway. Along with the major physical changes, a change in the office tenants, employees and clients has occurred. Market Street is no longer a "fringe" area but an accepted part of the Financial District. Rents in new Market Street offices are comparable to those in the traditional Financial District. Vacancy rates of Financial District buildings on Market Street are also no higher than those in traditional areas.⁶

Market Street's change in character is substantially attributable to BART. The Market Street Development Project, which largely owes its existence to BART, directly initiated many of the physical changes along Market Street and was a factor in promoting other changes. (13, 16, 18)

⁶Excluding the most recently finished building on Market Street (One Market Plaza), Market Street office buildings completed since 1965 show a 0.7 percent vacancy rate, while all San Francisco office buildings completed since 1965 show a vacancy rate of 4.1 percent. —Lex J. Beyers, "San Francisco Office Space: A Glowing Report," San Francisco Business, August 1977.

In the BART-served areas with substantial minority populations, not only has no BART-induced change in character occurred, but no significant change has been identified at all. In the Mission District, where a substantial Latino population lives, some renovation of older buildings has occurred (El Dorado, Redstone, Los Portales and Mission Medical Center buildings - 45, 48, 49, 53), but newer tenants, employees and customers do not exhibit characteristics notably different from the older users. (46)

Similarly, Oakland, with its large minority population, has gained several new office buildings in BART station areas but has experienced no marked change in the demographics of office tenants, employees or customers. (26, 30, 31, 32) In fact, many tenants have simply moved from the older buildings into new office quarters, leaving the old office buildings vacant. (32) No change in office users has apparently occurred.⁷

Richmond is a third community served by BART which has a large minority population. The Social Security Administration Center added 2,000 office workers to the BART station area; its employees generally fall in the low income brackets of federal service. The Center does not provide customer service at that location, and the area has not significantly changed in character.

In other suburban communities, no substantial changes in character have occurred and certainly no changes which could be traced to BART.

HYPOTHESIS 4: Developers of BART station-area office buildings were prompted by the publicity generated by BART's planning phase.

In general, BART's planning and publicity had little impact on developers' decisions of where to locate offices. (In the few cities where BART may have influenced office development, it is clear that the BART influence was not important until actual construction of the BART system was under way.

BART station areas had a lower combined share of new office construction in the 1963 to 1966 BART pre-construction phase (35 percent) than they did in the 1967 to 1972 construction period (55 percent).

Developers expressed general skepticism of public projects and denied that they would make an investment which relied on a public project until an actual, visible commitment of public funds had occurred. (4)

In two special cases, however, BART's planning and publicity did affect office construction. In San Francisco, BART's successful referendum and favorable publicity facilitated approval of the Market Street Development Project. The

⁷ Before BART construction began, three to four office buildings were being demolished each year within one-third of a mile of the future BART stations. This rate was unchanged during BART's construction phase. But, since BART has opened, virtually no office demolitions have occurred within the one-third mile radius, while four to five offices are being demolished each year in the rest of Oakland.

Development Project, in turn, significantly encouraged the redirection of office construction towards Market Street.

On the other hand, in San Francisco's Mission District BART's planning and publicity phase had a marked negative effect on office construction. San Francisco City Planning Department plans for redevelopment of the Mission generated heated opposition from *ad hoc* community groups. Strong community opposition to major office development persuaded the city to downzone the area—and no significant office development has since located there.

BART VS. NO-BART ALTERNATIVE

The no-BART alternative (NBA) is the supplemented bus transit system postulated to occur had BART not been constructed. Under the NBA, the location of new office space would probably have been the same as it has been with BART. Three factors explain this. First, key informants do not perceive BART to be a very important consideration in deciding where to locate new office buildings. Second, BART has so far not increased accessibility appreciably more than would have the extensive bus system envisioned in the NBA.⁸ Therefore, to the extent that BART has influenced office location decisions, the service provided by the NBA (except in those specific cases where BART service might be superior or in different locations) might have similarly influenced those decisions. Third, in some communities BART triggered a reaction to anticipated land-use changes and led to changes in public policy which precluded major developments. In these communities, whatever inducement to development that BART might have engendered was constrained by public policy.

In a few instances, however, BART has affected office location decisions differently than would the NBA. In downtown San Francisco, BART's influence was reinforced by rezoning (encouraging development around BART stations) and by market forces (inexpensive land in large parcels available to the south of Market Street); and contributed to a redirection of office development to the Market Street and south-of-Market Street area. Under the NBA, several factors contributing to this redirection would be absent. First, BART prompted the rezoning of downtown San Francisco, while there is no assurance that the NBA would have also done so. Second, BART was clearly responsible for the general upgrading of Market Street which improved the environment for competitive office space. Third, as a fixed-rail system, BART represented a long-term commitment to improved transit along the Market Street corridor. The NBA, in contrast, offered bus service which is inherently much easier to reroute. For these reasons, BART appears to have had a stronger effect on office development in the downtown, and specifically in the Market and south-of-Market Street areas of San Francisco, than the NBA would have had. However, because of the market forces cited above, and because the Trans-Bay Bus Terminal south of Market

⁸ John Blayney Associates/David M. Dornbusch & Company, Inc., "BART Impact Program—Land Use and Urban Development Project—Accessibility Mapping," prepared under contract with the Metropolitan Transportation Commission for the U.S. Departments of Transportation, and Housing and Urban Development (San Francisco, 1977). (Draft)

Street would have likely been upgraded, even under the NBA San Francisco's new office development probably would have eventually shifted southwards to Market Street. Therefore, BART probably only accelerated that trend.

Other instances in which BART has affected office location decisions differently than the NBA all involve local government responses to BART. In Walnut Creek, for example, zoning changes around the BART station facilitated development of one of the town's few high-rise office buildings, the Walnut Creek Plaza. In Oakland and Richmond, BART funds were counted as the local government's contribution to redevelopment projects, enabling larger projects than would otherwise have been possible.

In summary, BART's impacts are likely different from those of the NBA only where local governments responded to BART through rezoning, redevelopment or a street improvement referendum, in a manner unlikely under the NBA.

4. EXPECTATIONS AND IMPLICATIONS FOR OTHER CITIES

Expectations

This study's general conclusion is that BART has had little impact on the regional distribution of office construction and only scattered impacts on the selection of specific sites for new buildings. These findings, however, may reflect BART's limited present effect on regional mobility. In part because of the Bay Area's excellent regional highway system and alternative commuter transit systems (primarily busses), and in part because BART is still performing well below its designed level of service and reliability, BART has not significantly improved the mobility of large groups of residents. However, improvements in BART service; the expected increase in congestion on major highways and especially on the Bay Bridge (linking San Francisco with the BART-served counties of Alameda and Contra Costa); restrictions on the supply of parking space in the face of growing demand; and possible large increases in gasoline prices, gasoline rationing, or both, would improve BART's attractiveness relative to cars and busses. In this event, BART should gain ridership at the expense of cars and busses, and will become a much more significant factor in the choice of location for new office buildings.

In downtown San Francisco, new office construction is already oriented toward the BART corridor, so BART's increased importance would not alter existing trends. BART does, however, substantially expand the capacity of the transportation systems serving San Francisco, and therefore will ultimately allow the city to support a larger commuting workforce than would otherwise have been possible.

On the whole, BART has not changed the relative attractiveness of Bay Area business districts beyond ameliorating congestion as an impediment to growth. BART's effect will likely always be strongest in San Francisco where congestion is the severest. In other cities which have office districts near BART which are established (e.g., Oakland) or developing (e.g., Walnut Creek), BART's increasing importance will consolidate the importance of the BART station areas while discouraging drift to new office centers.

When BART and the highway systems both approach capacity, reverse commuting may become more predominant. As commuting into the established business districts becomes relatively more congested, costly, and time consuming than commuting to suburban offices, workers will find suburban office locations more attractive. When firms find that the cost and time savings from commuting to a suburban location instead of to downtown San Francisco outweigh the attraction of a central-city location, they will move. BART, however, forestalls decentralization by adding transit capacity to the downtown and thereby lowering the cost of commuting to established business districts. In the long run, BART therefore serves to strengthen San Francisco's business district by providing additional transportation capacity and thereby delaying the decentralization, which now at least appears inevitable.

Implications for Other Cities

An important lesson learned from San Francisco's experience with BART is not to overestimate a new transit system's importance in promoting office development. BART has not induced any new office centers to appear and, in fact, some new office concentrations continue to develop in apparent disregard of BART (e.g., the northeast waterfront in San Francisco; Kaiser Headquarters in Oakland; and Ignacio Valley in Walnut Creek). Thus, BART has clearly proven not to be a sufficient condition to produce new office patterns, and neither does it at this point appear to be a necessary condition. Other cities must not expect a new transit system alone to solve development problems unless they are caused solely by correctable transportation deficiencies.

BART's lack of effect can be explained by the way developers view transportation facilities in their location decisions. Lack of commuter accessibility can serve to disqualify a site from consideration, but once accessibility is satisfactory, the increased accessibility provided by a new transit system is only a "plus," not a factor important enough to overcome market considerations such as land prices and proximity to the established business district.

BART's construction significantly augmented the capacity of transportation links to downtown San Francisco.¹ Had BART not been built, the lower capacity would inhibit growth in downtown San Francisco somewhat earlier than will a BART-supplemented capacity. Whenever growth in San Francisco reaches a point where commuter trips exceed the pre-BART capacity of transportation links to San Francisco, then it can be said that BART is having some causal effect on San Francisco's office location decisions. Until then, BART will continue to be just one minor factor among many factors considered in the decision-making process.

Other cities can probably expect their new transit systems to have a similarly delayed effect. If the system is well-planned to sustain an existing business district, it can in the long run reinforce developers' market judgments and enable an area to thrive longer than otherwise possible.

A city wishing to redirect growth in office space can also draw upon the Bay Area's experience. Attempts by three Bay Area cities to influence the location of new office buildings have demonstrated that public policy incentives (such as zoning and redevelopment) can effectively influence developers' decisions only when market forces are also favorable. In San Francisco, zoning inducements and a beautification program acted in conjunction with strong demand for office space, inexpensive land, large parcels and a location adjacent to the expanding financial district to redirect office growth toward the BART corridor. In contrast, Oakland and Richmond both have created redevelopment areas near their respective BART stations, but in both cases market forces have not been favorable and, as a consequence, neither redevelopment area has been able to attract as much development as was hoped.

¹ BART currently carries about 55,000 trans-Bay passengers daily, compared to the Bay Bridge's daily load of 185,000. —Metropolitan Transportation Commission, "Traffic Working Note #9" (Berkeley, 1977); and University of California, Institute of Transportation Study, "Traffic Survey Series A-48—Bay Bridge" (Berkeley, 1977).

The lesson for other cities is again not to rely upon a new transit system alone to greatly affect office location decisions. The BART experience has also shown that to encourage desired changes in land use a transit system must be planned from the beginning in cooperation with city officials in positions to set accommodative public policy, and with developers themselves, who actually decide where to place new buildings and are most familiar with market forces. Transit improvements made without this cooperation will likely not succeed in influencing the location of new office buildings.

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APPENDIX - DATA COLLECTION

The goal of our data collection efforts was to obtain a complete record of all office construction and rehabilitation that has taken place since 1960 in each community served by BART. As sources of such information were investigated, it became apparent that a complete history would be either impractical or impossible to obtain. In most areas, the existing records on office construction and rehabilitation do not extend as far back as 1960. In some cities where records of construction activities have been retained, office building activity was not isolated from other building activity. In other cases the procedure for tracing building permits would have been too elaborate and time consuming to pursue.

What resulted, therefore, was an effort to collect as much data as was reasonably possible within the time constraints of the project, with an emphasis on obtaining enough data from each community and each BART station area to recognize any significant trends in office construction. Attempts were also made to collect data in such a way that the different communities could be easily compared with one another. Details of the methods used for making these comparisons are presented in Chapter 2 ("Approach").

This section describes the sources used to evaluate office construction and rehabilitation in the Bay Area. The most useful local and area-wide data sources are discussed. Possible data sources for further research are also mentioned.

Our data collection efforts focussed on obtaining office construction data for each BART station area. We sought the exact location of each office building built or rehabilitated and the size (*i.e.*, dollar amount) of the construction project.

Of all the sources of information on office construction which we were able to locate, none were able to meet all of our data needs. Reports filed by local building department personnel for the U.S. Census Bureau and for the F. W. Dodge Corporation were the most generally useful sources of information, and they form the primary data base upon which the analyses are based.

The U.S. Census Bureau collects information each month from each city and county on the type, number and dollar value of building permits issued during the previous month. Individual listings are also made for all permits of over \$100,000 in value. The Bureau collects this information by sending the local building department (or its equivalent) a standardized form to fill out and return. The form is entitled "Report of Building Permits Issued and Local Public Construction" and has a U.S. Department of Commerce form number of C-404. Filling out this report requires the local building department to fit each building permit issued into one of twenty-two categories provided on the form. Most new construction falling within our definition of office buildings is to be listed under the category labeled "office, bank and professional buildings." The "General Instructions" to the Census Bureau form define what is included in this category only by listing the types of building for which there might be questions about suitability for the office classification:

Item 16. OFFICE, BANK, AND PROFESSIONAL BUILDINGS

- Include also loft buildings; buildings designed for doctor's offices and related services; administration buildings of labor unions, chambers of commerce and trade associations, etc.; and public administration buildings, such as post offices, city halls, courthouses, State capitols, and Federal offices.

The category does not properly include office buildings of industrial firms, but the building permits department personnel who fill out these forms tend to put all large office buildings under the "office, bank and professional building" category, and therefore industrial offices tend to be included. An example is the Clorox Building at 1221 Broadway in Oakland.

Offices of public utilities are supposed to be listed in a separate "public works and utility buildings" category and, wherever possible, such buildings have been included in our analysis. We have also included radio and television studios or offices, although the Census Bureau includes them in an "amusement and recreational building" category.

Permits for additions and alterations to office buildings are listed as part of a general category reserved for additions, alterations and conversions of non-residential buildings.

Form C-404 has been used by the Census Bureau to collect building permit information since before 1960, with very little change in its format over the years. Since the information requested on the form is the same from community to community, comparisons are easily made between communities and between years.

Unfortunately, the usefulness of the Census Bureau "Report of Building Permits Issued and Local Public Construction" is limited in several important respects.

First, while each permit issued of \$100,000 or more in value is listed individually, the location of the new building is not always indicated. The Census Bureau only requests that the name and address of the owner or builder be noted. Several building departments in BART area communities list the address of the building site, but many do not.

Second, office construction or rehabilitation projects of under \$100,000 in value are not listed individually. The number and aggregate dollar value of new office construction permits fitting into the "office, bank and professional building" category is given, but any other information on the identity of these small offices had to be obtained elsewhere.

Third, the number and dollar value of office alterations and additions cannot be determined from Census Bureau reports, since they are grouped together with other non-residential permits. Also, new utility offices cannot always be identified using Census Bureau data, since utility office and non-office building permits are included together in the same category.

Fourth, not all communities have retained copies of the Census reports for all years, and in several cases, therefore, the reports cannot be used as a data source at all.

In spite of the problems, the Census Bureau reports provided the best data on office construction. In some communities, the reports represent the only organized information available on office construction and the only systematic records going back to 1960. These reports are also used as the source data for other reports put out by the Census Bureau and for publications and lists concerning building permits put out by non-governmental sources.

Some local building department officials also complete a monthly report for the F. W. Dodge Corporation that is nearly identical to the Census Bureau form. This form, called the "Cooperative Report of Local Construction," includes the addresses of projects with permit values of \$100,000 or more. Therefore, where they were available, the Dodge reports were even more useful than the Census Bureau report.

Neither the Census Bureau nor the Dodge Corporation themselves record the information they receive from these forms in a way that would be useful for this study. Consequently, neither organization was particularly useful as a direct source of information.

The Census Bureau does not record or retain the information on major construction projects listed on its monthly C-404 form. It uses the information only to check that local building department officials have recorded the projects in the proper category. After recording the summary data, the Census Bureau stores the forms and destroys them when they become ten years old (at most). Since the reports for the whole nation are stored chronologically, it would have been prohibitively expensive to selectively extract the reports for Bay Area communities.

The F. W. Dodge Corporation, on the other hand, records the address and other information on new construction projects. It sells the information to firms interested in planned and ongoing construction projects but does not long retain files for completed projects. The Corporation presently has nothing in its computer files from before 1972 and Dodge officials were even uncertain whether projects of under \$100,000 in value were included in the files.¹ Copies of the "Cooperative Construction" reports are kept only for about a year.²

The Dodge Corporation does, however, publish a periodical called The Daily Pacific Builder that focusses exclusively on construction activities in northern California. Every few days The Daily Pacific Builder includes a detailed list by county and city of building permits that have been issued in the San Francisco Bay Area and in Sacramento County.³ According to the publisher, the Builder

¹ Conversation with Mr. Norman Beck, F. W. Dodge Corporation, San Francisco.

² Conversation with Mr. Tod Elkins, F. W. Dodge Corporation, San Francisco.

³ No building department in the BART region has a special list of permits for just office construction. When a permit is issued for office construction, an entry is usually made on a ledger listing all building permits issued in chronological order. A copy of the actual permit will be stored in a file maintained for that address (with each address in the city having its own file). The dollar value of the permit will be included as part of a summary figure on the value of permits issued in monthly or yearly reports to various public agencies.

includes complete listings, but our review showed that the information is not complete. During a selected five-year period, we found only 40 percent of office permits issued in Hayward for under \$100,000 and 60 percent of the office permits issued in San Francisco of over \$100,000 were included in Daily Pacific Builder issues.⁴

A more thorough listing of large (over \$100,000 in value) office construction projects in California has been compiled by the Security Pacific Bank for recent years and was used where Census reports were unavailable.⁵

There are several limitations of the Security Pacific data. First, since their data is taken from the Census Bureau C-404 form, the address given for each of the projects is the address of the owner or builder of the project, and not the address of the project site (except in a few cases where a building permit clerk only listed the project address on the C-404 form). Second, the listings of projects of \$100,000 or more in value do not always indicate whether the projects represent new construction or additions or alterations to existing buildings.

⁴ An additional problem is that certain volumes of the Daily Pacific Builder are unavailable. The Periodical Room at the San Francisco Main Library supposedly has the most complete set of Daily Pacific Builders existent, but many volumes have either been lost, misfiled or stolen. Of volumes issued since 1960, the library still has all of 1962; January through June, 1963; and January, February, March, July, August and September of 1964. Current issues are available at the Business Branch Library. At the Dodge Corporation offices at 2450 - 17th Street, San Francisco, all issues of the Daily Pacific Builder have been retained since January, 1965, but no earlier volumes have been kept.

⁵ Security Pacific has contracted with the U.S. Census Bureau to receive the information contained on the C-404 form for all areas of California each month. It has organized the information in various ways, including an annual compilation of each building permit issued in California of \$100,000 or more in value, as taken from the C-404 form. This listing, entitled "Report of California Major Construction Projects," was begun in 1970 and single copies of the issues are available for inspection at the Research Department, 15th Floor, Security Pacific Bank, 1 Embarcadero Center, San Francisco. Recent issues can also be purchased for \$10.00. Monthly listings of California construction permits of \$100,000 and over are included in recent issues of Security Pacific's California Construction Trends magazine, as are summary figures for building permit activities in various categories, office construction not having its own category.

The security Pacific head office in Los Angeles does have on microfilm, though, summary figures on the number and dollar value of building permits issued each month for new construction for each community in California that include an "office, bank and professional building" category. This information has been compiled back to January, 1963, and is not available at the San Francisco Security Pacific offices. We requested copies of these summary figures for communities in Alameda and Contra Costa Counties from Los Angeles and have them on file.

Because of this omission, a third problem is created. In summarizing the amount of new construction, projects for office additions and alterations are sometimes mistakenly included. The monthly summary figures, therefore, tend to overstate the amount of new office construction.⁶

Given the limitations of such sources as The Daily Pacific Builder and Security Pacific Bank for area-wide building permit data, our main sources of information were the records of local building permit departments, some of which had been originally assembled for the Census Bureau, other local government agencies, and a few non-governmental sources of information, such as Chambers of Commerce. While the basic types of data available from each community are often very similar, there are differences in the form, availability and sometimes in the type of records that are kept. Following is a summary of the office construction records available in each city and the information available for the unincorporated areas in and near the BART lines in Alameda and Contra Costa Counties.

ALBANY

Albany maintains a handwritten chronological list of building permits issued in the town since May, 1966. The records are kept in a couple of large ledgers available at the Planning and Building Department in the City offices. In these ledgers new office construction is typically designated as such in the description of the type of work the permit is for ("new office building," etc.). It is sometimes difficult to identify office alterations or additions because the words "alter" or "addition" are often the only description shown on the permit with the building use (residential, retail or office) left unspecified.

For office construction before May, 1966, a list showing the location of office buildings in Albany was obtained from the Finance Department. On the few streets where offices are allowed, a card file of building permits by address was searched for records of office construction between 1960 and May, 1966.

Census Bureau C-404 reports are available for Albany only as far back as 1968. Since the chronological listing of permits goes back to 1966, the Census Bureau reports were not used.

BERKELEY

Berkeley no longer maintains a chronological list of building permits for the early to mid-Sixties. The Berkeley Housing and Development Department publishes a biweekly "News Release" listing all building permits issued during the previous two weeks, but they have not retained copies of these "News Releases" prior to June 16, 1966. The news releases since then comprise approximately 1,200 pages. To screen the permit records, we used information from copies of the Dodge Corporation "Cooperative Report of Local Construction" available

⁶In Oakland, for example, we found that the Security Pacific summary figures overestimated the dollar value of new construction by an average of 6 percent.

at the Housing and Development Department (they also have copies of the nearly identical C-404 form) to obtain addresses of office permits of \$100,000 and over and to identify the number and dollar value of new office construction permits issued of under \$100,000 in value for each month. For the months having new construction, the "News Releases" were searched and the appropriate permit listings noted. Since Berkeley's copies of the Dodge and Census Bureau reports have only been kept back to June, 1972, we examined all the "News Releases" between June, 1966 and May, 1972 in search of new office construction permits.⁷ Information on office alterations and additions was collected which included office alterations and additions of over \$100,000 in value. (Alterations and additions between June, 1972 and April, 1977 were taken from the "Cooperative Construction" reports.) Since all new construction is listed at the head of each "News Release" and since permits of \$100,000 or more stand out, this search proceeded quickly.

As in Albany, Berkeley does not indicate the type of building that alterations and additions are for. (This problem was also encountered with some of the permits for new construction.) The identity of individual buildings thus in question was obtained by checking parcel files the City maintains for each piece of property in Berkeley.

CONCORD

All building permit data has been transferred to small cards and filed by street address. No chronological listing of building permits exists. Information for Concord came primarily from the Security Pacific list of buildings of over \$100,000 and from the issues of The Daily Pacific Builder. The exact addresses of the buildings on the Security Pacific list were provided by Concord Planning Department personnel or were obtained from the "Cooperative Construction" report issues saved by the Public Works Department.

Additional information was obtained from a list of recent office building construction compiled by Pat O'Keeffe of the Planning Department and from computer printouts of building permits issued in 1975 and 1976, also available from the Planning Department. Unfortunately, these Planning Department lists did not include the dollar value of the permits issued.

DALY CITY

Daly City also has no chronological listing of building permits issued. Instead, the city has photocopied the actual building permits issued as far back as March, 1970. The quality of the photocopy record is poor. Permits tend to cover one another, hiding information; the copies are difficult to read; the permits themselves are not completely filled out.

⁷The Security Pacific summary data for office construction, mentioned above, could have been used to facilitate the search of the remainder of Berkeley's records, but we did not know of this source at the time.

More useful sources of building permit data for Daly City are the "Cooperative Reports of Local Construction" and C-404 forms. The Building Permit Department has copies of these records back to January, 1969. Since there have been virtually no new office buildings built since that time of under \$100,000 in value, these forms provide a nearly complete record of new construction for the last eight years. Earlier data was obtained from The Daily Pacific Builder listings.

EL CERRITO

El Cerrito has copies of the Dodge and Census Bureau construction data reports back to January, 1971, but the most useful source of office construction data in El Cerrito is the one-page Annual Report of permits issued by the Building Division. There are few permits issued each year for new non-residential construction and the Annual Report lists the dollar value, name, and address for each such permit. Large alterations and additions of non-residential buildings are listed in the same manner. Copies of these reports are available at the Building Division at least as far back as 1960, so we were able to obtain a virtually complete listing of new office construction for El Cerrito. Smaller alterations and additions were found by searching the City's parcel files for offices whose identities were known from the Annual Reports or from other sources.

FREMONT

Fremont is another city where a lack of historical records and other problems impede data gathering. The Building Department has copies of the Dodge and Census Bureau construction reports only since January, 1974; there is no chronological listing of building permits issued before May, 1975; and their annual "Building Construction Authorized" report does not include office construction as a distinct category. In Fremont, we went through the City's parcel files for office-type buildings in order to get around these problems. To do this we first identified the U.S. Standard Industrial Classification (SIC) codes that include office uses. A Contacts Influential list of East Bay businesses (available at the Business Branch of the San Francisco Public Library) organized by SIC code and zip code was then used to identify Fremont office-type businesses and their addresses. A list of new office-type businesses taken from a new business list available at the Fremont Finance Department supplemented the Contacts Influential list.

It was next necessary to identify the proper file code for each address since, unlike the vast majority of building permit departments, Fremont does not store its parcel files by street address. Rather, the parcels are given a number when the first building permit for the property is issued and the files are stored in numerical order. Once the numerical code was cross-checked with a separate card catalogue of street addresses, the files were inspected for building permits issued between 1960 and the present. To the results of this search were added those entries from the Security Pacific listing and the available "Cooperative Construction" reports where we had missed office construction permits in our search.

HAYWARD

Dodge "Cooperative Construction" reports exist back to at least 1960. Hayward also keeps ledgers containing chronological lists of building permits issued since at least 1960. A list of all (*i.e.*, new, alterations and additions) office permits issued of \$100,000 or more was made from the "Cooperative Construction" reports. A list of permits for new office construction of under \$100,000, along with the date of issuance, was also compiled. Some of the smaller office construction permits were identified from The Daily Pacific Builder records.

LAFAYETTE

Lafayette is the only incorporated community in our study that does not handle its own building permit records. Since its incorporation in August, 1968, Lafayette has contracted with Contra Costa County to have the County issue its building permits and handle the record keeping.

The County has a variety of records relating to Lafayette, but there tend to be complications in using this data. The County has kept copies of the Census Bureau report C-404 back to at least 1960, but has only retained the comparable "Cooperative Construction" reports (giving the addresses of new construction) back to August, 1976. Furthermore, since Lafayette was unincorporated before August, 1968, data for office construction in Lafayette was mixed in with data for the rest of the unincorporated areas in Contra Costa County on the Census Bureau report, making it impossible to tell which new construction of under \$100,000 came from Lafayette versus the rest of the County. Once Lafayette became incorporated, the County started preparing separate reports for the former, but then discontinued the practice in January, 1973. Since that time, building permit data for Lafayette has once again been combined with construction data for unincorporated areas of Contra Costa County on a single Census Bureau report.

Building permits issued for Lafayette are also mixed in with those for unincorporated Contra Costa County on the County's weekly report of building permits issued. Printed copies of these reports have been kept in the County Building Department since January 11, 1968. Before then, building permits were kept in a microfilmed chronological file at the same office.

The equivalent of an address file is also kept on microfilm for properties in Lafayette and the unincorporated areas of the County. This microfilm record is organized by parcel number and not by address. Therefore, a parcel book must be used to compare parcel numbers with addresses.

A further source of information on office construction in Lafayette and unincorporated Contra Costa County also exists. Between 1970 and 1973, index cards were prepared for each non-residential permit issued by the County Building Department giving detailed information such as the owner, builder, address, parcel number, value of the building permit, zoning and square footage of the building being built. Although this practice was discontinued, Mrs. Gresham of the Building Department still has the index cards, and we utilized them for our study.

OAKLAND

Oakland's Building Department has copies of the Census Bureau and Dodge Corporation reports back to at least 1960 and a chronological list of building permits issued that goes back to before 1910. From the Dodge and Census reports, a list of office construction projects of \$100,000 and over was easily compiled and the amounts of smaller new office construction projects established for each month. To obtain the addresses of the smaller projects, it was necessary to go through the chronological ledgers (a time-consuming task since Oakland issues 6,000 to 7,000 building permits each year). Unfortunately, the records do not mention the type of building for which an alteration or addition permit is issued, so this process did not yield any information on office alterations and additions.⁸

PLEASANT HILL

Pleasant Hill has a chronological listing of permits issued that goes back to January, 1965. While it was not always clear from the entries whether some permits were for office or non-office type buildings, the cases in question were noted and later compared with a list of office-type buildings in Pleasant Hill compiled from the Contacts Influential Directory mentioned above. In this way, a virtually complete list of office permits of all types was obtained for Pleasant Hill back to 1965. Pleasant Hill also has copies of the Dodge and Census reports for the 1970's.

Building permit information for Pleasant Hill from before 1965 is kept by the Contra Costa County Building Department. The County issued separate Census Bureau report C-404 forms for Pleasant Hill from July, 1962 to December, 1964. Before July of 1962 Pleasant Hill was unincorporated and was included in the County's C-404 report for unincorporated areas.

⁸ Another potential source of detailed information on office construction in Oakland is the Sanborn map file, located at the House Numbering Division on the same floor of City Hall as the Building Department. The Oakland Sanborn maps are large-scale maps originally made in the 1930's that show every building in Oakland (and Berkeley) and describe the structural characteristics of the buildings (wood-frame, two-story, concrete-block, etc.). As new buildings are built or major alterations made, the maps have supposedly been updated by pasting diagrams of the new buildings onto the maps. According to personnel in the Building Numbering Section, there are no guarantees that the maps are completely accurate, because over the years people have been inconsistent in updating the maps. Nevertheless, it is a fairly straightforward task to pick out newly constructed or altered buildings of all types because additions to the maps made since the 1950's have been on whitish-colored paper, in contrast to the different colors used to designate buildings when the maps were first compiled. Office buildings are indicated as such. The year the building permit for a new building was issued is noted, and supplemental data such as the number of stories the building has is often given on the maps too. Not given is the dollar value for the construction. The maps, therefore, were not utilized for this study.

RICHMOND

Richmond has a chronological listing of building permits back to the 1930's. Richmond also has a numerical code for classifying each building permit issued according to the type of building the permit is for. A "1" on the left-hand side of a listing for a building permit indicates that the permit is for a new public building. "1-8" indicates an addition to a public building. "2" and "2-8" designate new business buildings and business additions, respectively. "5A" is the designation for alterations and repairs to non-residential buildings. Various other codes are used for industrial and residential permits.

This system makes it easier for the Building Department clerks to summarize the building permit data for the monthly summary page they prepare, and it makes searching for specific types of permits easy. Unfortunately, "office buildings" is not one of the categories used in summarizing the data. Office buildings are included with retail buildings as part of the "business building" category, except for public office-type buildings which are included in the public building category.

To identify the office buildings contained in categories "1," "1-8," "2," and "2-8," we had to list the address for each permit issued in these categories and then look through a permit card file (Richmond's equivalent of an address file system) for each address in question, where more precise information on the type of building being built or altered was given. The Census and Dodge reports were helpful in reducing this task only for recent years, since Richmond has saved these records only back to January, 1972. Ultimately, these efforts gave us the identity of all new offices and office additions built in Richmond since 1960.⁹

SAN FRANCISCO

The San Francisco Central Permit Bureau in the City Hall Annex keeps San Francisco's building permit records. Due to the large number of building permits processed in San Francisco (12,000 to 14,000 annually in recent years), all completed building permit applications have been microfiched onto slides which are filed numerically in the order in which the applications are received. A microfiche index identifies the permits filed for each address in the City. With nearly half a million permits on file since the 1930's, direct searches of permits in San Francisco is a practical impossibility.

The Permit Bureau does have more useful records, though. Since March, 1969, the Permit Bureau has kept a list containing data on all new buildings constructed in San Francisco of any dollar value and on all alterations and additions of \$100,000 or more in value. (This list is currently maintained by Mrs. Ahumada of the Permit Bureau.) For permit data from before March, 1969, copies of the Census C-404 forms have been retained, although the older issues are kept in "storage." Copies of the Dodge "Cooperative Construction" report are mixed in with copies

⁹ The same process could be used to identify all office alterations in Richmond, but since the "5A" code (alterations of non-residential buildings) has over twice as many entries as the other four codes combined, we have not undertaken this task.

of the Census Bureau C-404 reports for the period of January, 1960 to January, 1962.

Since the Census Bureau's C-404 report is the only comprehensive record of building permits issued in San Francisco that is available at the Permit Bureau for the period of February, 1962 through February, 1969, we were able to compile a list of office buildings built or rehabilitated in this seven-year period, but without their addresses. To get the addresses for the more than 220 office permits of \$100,000 or more in value, we sought alternative sources of information. The City Planning Department's list of tall buildings in San Francisco¹⁰ and lists of major office buildings prepared for the Chamber of Commerce¹¹ provided data on some of the largest construction projects. The data for the Market Street Survey of the BART II reports prepared for the Metropolitan Transportation Commission¹² also contained a small amount of useful information. To get more thorough information, we searched through volumes of The Daily Pacific Builder available for this period and so identified addresses for a majority of outstanding permits. Conversations with the Chamber of Commerce and phone calls to corporations that had built or owned some of the buildings we had not located were used to track down still more permits. The remainder of the information was obtained from comparison of successive Polk City Directories for San Francisco (available in the Periodical Room of the Main Library).

SAN LEANDRO

San Leandro's copies of the Census Bureau and Dodge Corporation reports have been kept since 1970 (and curiously enough, the 1961 Census C-404 forms have also been saved). For other years, the best ready source of new office construction data is a series of forms prepared each month by the Building Division which are stored in the file on permit activity in the 1960's. These forms were used for comparing the permits issued each month with the permits issued a year earlier. One of the categories on the forms is "professional buildings" and often the identity of the buildings for which permits were issued was noted on the forms. The remaining permits were obtained from San Leandro's ledger of building permits issued along with those new office permits of under \$100,000 mentioned on the Census C-404 forms. For 1960, all building permit entries in the ledgers were inspected for office building permits.

It is unclear how "professional buildings" was defined by the Building Division personnel in the 1960's, so while the category does include some office buildings,

¹⁰ San Francisco Department of City Planning, "Tall Buildings in San Francisco Downtown Study Area" using data to August 1, 1975.

¹¹ Bechtel Corporation, San Francisco Downtown Retail District: A Data Base Study, prepared for the San Francisco Chamber of Commerce, June 1971.

¹² Douglass B. Lee, Jr., Market Street Study, Part III, Vol. IV, and Data Documentation For the Land Use and Investment Study, Appendix C (BART Impact Studies, BART II Final Report (1973)).

it may not include everything contained in the Census Bureau's "office, bank and professional building" classification. We were unable to make a clear determination on this question.

UNION CITY

Union City issues a relatively small number of building permits and has few office buildings. Union City has copies of the Census Bureau C-404 reports back to November, 1966; copies of the Dodge "Cooperative Construction" reports back to early 1967; and a chronological listing of building permits back to January, 1971. According to the Security Pacific summary of office permits issued, there were no new office construction permits issued in Union City between January, 1963 and December, 1967. The Daily Pacific Builder issues for 1962 listed no office permits for Union City. For 1961 and 1960, no information is available.

WALNUT CREEK

In Walnut Creek we were fortunate to discover a building inspector who had kept, for his own use, copies of the City's monthly listing of building permits issued back to May, 1962 (with one page from March, 1962). The Community Development Department (where such records are kept in Walnut Creek) had only kept copies of the reports back to January, 1975. Copies of the Census C-404 forms have also only been kept since January, 1975. We copied the building inspector's collection of permit records and used them as a primary source of information on office construction in Walnut Creek.

These monthly listings of building permits clearly identify new office buildings, but, as elsewhere, one cannot determine the type of building for which alterations and additions are noted. To solve this problem and to obtain office construction information from before May, 1962, we utilized two additional sources of Walnut Creek building permit data.

First, Walnut Creek has an annual computer printout that lists building and sign permits that are on record for each address. Although there are many errors in the printout, it yielded useful information when matched with a list of office-type buildings prepared from the Contacts Influential East Bay Directory. Second, the Community Development Department has a prepared list of "commercial" building permits issued which includes office buildings from the mid-1950's. Between January, 1961 and January, 1967, this list was not maintained, but it is a good source of information for office construction information for other years, including 1960.

UNINCORPORATED ALAMEDA COUNTY

The Alameda County Building Department in Hayward maintains the building permit records for San Lorenzo and other unincorporated areas of Alameda County. It puts out a daily listing of building permits issued for the unincorporated

rated areas of the County and has kept copies of the listing back to the 1950's. Unfortunately, the records are too voluminous to use efficiently. (There are about 9,000 pages of permits on file back to the beginning of 1960.) The other source of organized data on building permits in the County offices is the Census C-404 reports, but the Building Department has kept copies of these reports only for 1972, 1973, 1975, 1976, and 1977. Even for these years, it is not possible to isolate the new office construction of under \$100,000 for San Lorenzo from other unincorporated areas, so our data for San Lorenzo is very incomplete. For selected years, data was obtained from the searches of The Daily Pacific Builder.

UNINCORPORATED CONTRA COSTA COUNTY

The Contra Costa County Building Department handles building permits for Orinda, the unincorporated area near the Pleasant Hill BART station, and other unincorporated areas of the County. The types of records the County maintains have been mentioned above in the discussion of Lafayette. These records and the searches of The Daily Pacific Builder led to an identification of much of the large office construction activity in the Orinda area. (To identify the smaller permits in either San Lorenzo and/or Orinda, a search of the records for each address where there is an office-type business would probably be the most efficient way to proceed, but the likely product of such a search did not justify the effort required.)

Appendix - Data Collection
THREE-COUNTY BART AREA
REGIONAL DISTRIBUTION OF NEW OFFICE CONSTRUCTION*
From 1960 to April, 1977

	Location	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	To April 1977
	Albany (\$1000)	0	0	45	0	0	97	1,663	60	0	64	0	175	245	0	20	57	0	0
	(Percent)**	0.0	0.0	0.2	0.0	0.0	0.2	1.4	0.1	0.0	0.1	0.0	0.1	0.5	0.0	0.0	0.0	0.0	0.0
	Berkeley	M***	M	1,075 [†]	207	666	941	908	269	810	4,590	336	1,744	0	275	887	167	0	1,596
		—	—	4.6	0.4	3.8	1.8	0.8	0.4	1.2	4.2	1.1	0.5	0.0	0.3	1.4	0.1	0.0	20.0
	Concord	M	M	78 [†]	317	399	1,772	460	827	951	6,354	2,709	856	407	1,266	2,916	1,886	505	811
		—	—	0.3	0.6	2.3	3.4	0.4	1.1	1.4	5.8	8.5	0.3	0.9	1.3	4.5	1.0	0.7	10.2
	Daly City	M	M	143 [†]	M	M	0 [†]	163 [†]	0 [†]	32 [†]	18	190	1,101	1,156	0	3,727	516	1,600	0
		—	—	0.6	—	—	0.0	0.1	0.0	0.0	0.0	0.6	0.3	2.6	0.0	5.7	0.3	2.3	0.0
	El Cerrito	491	0	162	35	0	230	235	119	20	0	160	152	149	0	222	0	0	202
		2.0	0.0	0.7	0.1	0.0	0.4	0.2	0.2	0.0	0.0	0.5	0.0	0.3	0.0	0.3	0.0	0.0	2.5
	Fremont	148 [†]	158 [†]	400 [†]	758	1,465	397	90	538	437	794	2,977	832	2,946	1,535	720	1,133	9,962	850
		0.6	0.3	1.7	1.5	8.3	0.8	0.1	0.7	0.7	0.7	9.4	0.3	6.5	1.6	1.1	0.6	14.6	10.6
	Hayward	697	616	740	303	1,765	509	2,817	306	2,409	1,027	839	1,434	999	1,233	12,101	305	627	496
		2.9	1.1	3.1	0.6	10.0	1.0	2.3	0.4	3.6	0.9	2.6	0.4	2.2	1.3	18.6	0.2	0.9	6.2
	Lafayette	0 [†]	0 [†]	22 [†]	0 [†]	0 [†]	450 [†]	545 [†]	12 [†]	0	118	0	169	149	570	1,029	75	152	232
		0.0	0.0	0.1	0.0	0.0	0.9	0.5	0.0	0.0	0.1	0.0	0.1	0.3	0.6	1.6	0.0	0.2	2.9
55	Oakland	8,758	8,221	1,768	844	6,029	3,769	13,644	3,544	2,460	30,310	4,242	20,560	5,206	9,772	14,685	988	9,294	10
		36.1	15.2	7.5	1.7	34.2	7.2	11.3	4.8	3.7	27.8	13.3	6.3	11.5	10.0	22.6	0.5	13.6	0.1
	Orinda	0 [†]	0 [†]	12 [†]	134 [†]	0 [†]	0 [†]	185	481	0	91 [†]	109	460	80 [†]	636	0 [†]	0 [†]	202 [†]	0 [†]
		0.0	0.0	0.1	0.3	0.0	0.0	0.2	0.7	0.0	0.1	0.3	0.1	0.2	0.7	0.0	0.0	0.3	0.0
	Pleasant Hill	0 [†]	0 [†]	0	38 [†]	15 [†]	566	269	566	33	180	0	1,233	480	0	1,036	545	464	0
		0.0	0.0	0.0	0.1	0.1	1.1	0.2	0.8	0.0	0.2	0.0	0.4	1.1	0.0	1.6	0.3	0.7	0.0
	Richmond	90	428	268	559	391	176	3,208	283	100	466	100	808	130	35,000	412	12	424	800
		0.4	0.8	1.1	1.1	2.2	0.3	2.7	0.4	0.1	0.4	0.3	0.2	0.3	35.9	0.6	0.0	0.6	10.0
	San Francisco	13,646	43,726	17,802	47,013	6,188	42,978	93,783	66,322	56,099	61,893	14,440	292,043	30,144	42,027	22,353	176,588	39,318	348
		56.2	81.1	75.4	92.5	35.1	82.0	77.9	89.7	83.9	56.7	45.4	90.2	66.5	43.1	34.3	96.5	57.6	4.4
	San Leandro	185	478	20	497	140	112	1,010	0	782	1,532	1,370	0	890	2,031	319	303	0	550
		0.8	0.9	0.1	1.0	0.8	0.2	0.8	0.0	1.2	1.4	4.3	0.0	2.0	2.1	0.5	0.2	0.0	6.9
	San Lorenzo	M	M	73 [†]	15 [†]	M	0 [†]	0 [†]	0 [†]	0 [†]	0 [†]	0 [†]	0 [†]	0 [†]	0 [†]	220	0	130	0
		—	—	0.3	0.0	—	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.2	0.0
	Union City	M	M	0	0	0	0	0	0	32	18	0	0	0	215	250	125	125	0
		—	—	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.1	0.2	0.0
	Walnut Creek	248	310	1,002	101	563	403	1,461	601	2,684	1,738	4,335	2,225	2,067	3,012	4,220	286	5,505	2,089
		1.0	0.6	4.2	0.2	3.2	0.8	1.2	0.8	4.0	1.6	13.6	0.7	4.6	3.1	6.5	0.2	8.1	26.2
	Unincorporated Area Near Pleas- ant Hill Station	0 [†]	0 [†]	0 [†]	0 [†]	0 [†]	0 [†]	0 [†]	0 [†]	0 [†]	0 [†]	0	0	264	0	0 [†]	0 [†]	0 [†]	0 [†]
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
	TOTAL	24,263	53,937	23,610	50,821	17,621	52,400	120,441	73,928	66,849	109,193	31,807	323,792	45,312	97,572	65,117	182,986	68,308	7,984

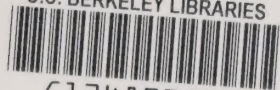
*New offices of \$10,000 or more in value, in thousands of dollars.

**Percent of yearly total.

***M represents missing data.

[†]Data may be less than 100 percent complete.

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